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Panasonic

AMIGA COMPUTING

Brave new world

Commodore back from the brink



SYSTEM

A totally new concept in Amiga games coverage

TBC Plus - GVP's latest and best video peripheral

Multiframe - ADPro's new easy to use front end

Wordworth 3.0 - The Amiga's best WP yet?

Devil's Advocate - Are Elspa doing enough to safeguard our games?

Legal loopholes - Home Office admits porn failure

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Panasonic

UNREPEATABLE!

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FREE
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- -COLOUR RIBBON
- -BLACK RIBBON
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WORDWORTH OR BATMAN RETURNS / ELITE II

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FIRST COME FIRST SERVED

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New Ultra - Compact LED Page Printer Announcing the **Panasonic KX - P 4400** LED Page printer, the printer that fits virtually anywhere. Ultra small foot print (12.7cm X 38.1cm ex trays) and under 6.5 kg, this printer travels with you.

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- 100 sheet, multi purpose paper tray (A4, letter, legal and executive)
- 28 internal bitmapped fonts
- HP laserjet series IIP
- 1 Mb Ram expandible to 5 Mb
- 1600 copies per toner.
- 1 Year On Site Warranty

SAVE 112

~~£587~~ **£475.99**



Panasonic KX - P5400

Adobe Postscript LED Page printer now available. Specification as above plus * 2 Mb Ram standard * Adobe Postscript level 2inc 17 Adobe Fonts * Optional AppleTalk interface available

£759.99

Panasonic KX - P2023



- **Quiet printing** 46.5 dBa standard mode. 43.5 dBa super quiet mode
- **On screen set up disk**-Including printer driver for Windows 3.1
- **Fast Printing Speeds** 192 CPS draft, 64 CPS LQ
- **4 Resident Fonts** Courier, Prestige, Bold PS and Script
- **2 Paper Paths** Top and Rear
- **1 year Warranty** for total peace of mind

Recently reviewed by Amiga Format *A fine 24-pin dot matrix printer at a reasonable price. Buy from **INDI AND SAVE OVER £72**

Buy this superb printer for just £144.99 AND whilst stocks last we'll send you a voucher for a free auto cut sheetfeeder **WORTH A FURTHER £89.**

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FREE SHEETFEEDER

KX-P4410 Laser Printing KX-P4430

KX-P4410
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- 28 resident fonts
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SAVE £289

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KX-P4430
- Satinprint (optimum resolution technology)
- 5 pages per minute
- HP laserjet III emulation, PCL 5
- 8 scalable fonts. 28 bitmap fonts
- Optional 2nd input bin (total printer capacity 2X 200 sheets)
- Optional memory expansion to 5Mb (1Mb as standard)

New Low Prices!

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WORDWORTH AGA COMPLETELY FREE WITH LASER PRINTERS

Printer Accessories

1) **Printer Dust Cover**
-Specially tailored quality dust cover for the Panasonic KX-2123 printer
INDI PRICE £8.99

2) **Printer Stand**
-2 Piece printer stand
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3) **Paper Pack**
-500 sheets of quality A4 paper
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4) **Continuous Paper**
-2000 sheets 1 part listing paper
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5) **Parallel Printer Cable**
-To be used when connecting Amiga to Panasonic printers
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6) **Panasonic Colour Ribbon**
-Colour ribbon for KX-P2123
INDI PRICE £12.99

7) **Panasonic Black Ribbon**
-Black ribbon for KX-P2123
INDI PRICE £6.99

Panasonic KX - P1170



This quality 9 - pin mono dot matrix printer represents excellent value for money.

- **Push, pull tractors**
- **Fast Printing Speeds** 192 CPS draft, 38 CPS NLQ
- **4 Resident Fonts** Courier, prestige, bold PS and sans serif
- **3 Paper paths** Top, bottom and rear.
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- **Paper parking**

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Your Imagination Is The Only Frontier

Opal Vision State of the Art Mainboard

The amazing Opal vision 24 - bit graphics board and software suite has been updated and is now even better value for money.

The software suite now includes:

Opal Paint V2.0. Now includes full magic wand implementation and Alpha Channel that allows photo compositing with selectable levels on a pixel by pixel basis. The Chrominance effect allows absolute real time control of image contrast, brilliance and re-mapping of colours.

Opal Animate V2.0 - Offering real time play back of animations created by ray tracers, landscape generators, morphers and all other 24 - bit software.

Opal Hotkey V2.0 - Display Opal vision graphics anytime with key combinations.

"Quite simply, it's a spectacular product". **Amiga Computing.**

"Undoubtedly the finest, most professional paint program to arrive on the Amiga" - **Amiga Format.**

"Professional quality at this price can't be turned away" - **Amiga User International.**

"The verdict was unanimous - brilliant". - **Amiga Shopper.**

£349.99

Limited Offer

OpalVision Video Suite

This power packed video and audio mixing, switching and transcoding device connects directly to the Video Processor. This 19 - inch rack mountable unit is so advanced that it has it's own internal computer and every aspect is software controlled for precisely timed and accurate functionality. The video suite includes a wealth of inputs and outputs. There are 9 video and 10 audio inputs available, plus the 24 - bit frame store. Professional quality video inputs and outputs are available simultaneously in RGB or Y/R - B/B - Y. Composite and S - Video. Choose and 2 sources from these inputs, assign a transition or special effect and then trigger it manually or automatically. All of the transitions and effects provided by the OpalVision Video Processor are available for use by the Video Suite. the linear transparency key (Alpha channel and transparency effects) can be taken from the Video Processor and/or external video source and/or output to another production switcher. This allows transparency control between video sources on a pixel by pixel basis. The 10 Audio inputs (five stereo pairs) are fully software sequenced with smooth fades and full, 5 band frequency equalization.

£899.99

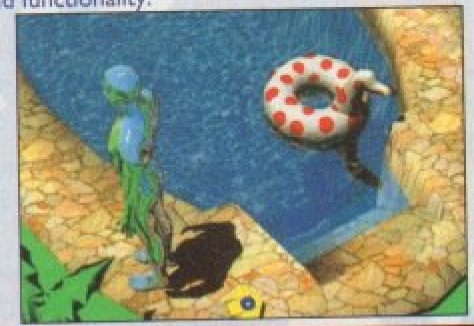
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OpalVision Video Modules

Opal Vision Video Processor

It's a high quality real time 24 - bit frame grabber which doesn't require a time base converter, it's a professional quality genlocker with croma and Luma keying. the 256 level linear transparency key allows the definition of transparency between two live video sources on a pixel by pixel basis for smooth vignettes, antialiased text and super smooth effects. Plug this card into your OpalVision main board and add a wealth of additional features and functionality.



OpalVision Roaster Chip

Included with every Video Processor, the Opal vision Roaster chip provides an endless number of user definable Digital Video Effects. Take any two video sources (or an Amiga or Opal vision generated graphic). Flip it. Scale it. Rotate it on the X or Y axis. Move it along a path. Zoom it. Move out. You have complete control. Build your own custom library of useful wipes and effects and give your videos a unique style. OpalVision is the only video system in its price class with this powerful digital video engine. You've got to see it to believe it.

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New Low Price

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2mb Chip Ram

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Phone for price on Fast Ram

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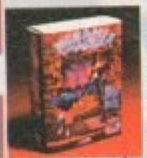
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Add this card and achieve 31 Khz, non interlaced output of Amiga and OpalVision graphics and any incoming video source in either PAL or NTSC. Includes full time - base correction of incoming video, the on - board memory also serves as an additional frame store.

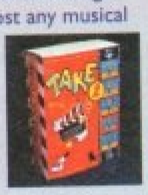
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Rombo Audio Visual Products



Megamix. Low cost, hi spec digital effects cartridge plugs into the printer port of the Amiga. Allows stereo sampling from almost any musical source. **INDI PRICE £27.99**



Take Two. Animation package is a must for computer artists and enthusiasts of all ages. As used in Rolf Harris Cartoon Club. **INDI PRICE £34.99**



Vidi Amiga 12. The ultimate low cost colour digitiser for the Amiga. "the best value full colour digitiser on the market".- Amiga Format. **INDI PRICE £69.99**

Rombo Vidi Amiga 12 (RT) Based on the best selling Vidi Amiga 12. This all new version offers real time colour capture from any video source. Full AGA chipset support as standard for all A1200/A4000. **INDI PRICE £129.99**

Rombo Vidi Amiga 24 (RT) For the more serious user, this 24 - bit version will again capture from any video source with true photo realistic images! A staggering 16.8 million colours can be utilised with incredible results. Full AGA chipset support. **INDI PRICE £219.99**

Roctec Rocgen Plus. As above but with extra features such as tinting and signal inversion. Allows for real time editing of graphics. Compatible with all Amigas. **INDI PRICE £127.99**

Roctec Rockey. The ultimate accessory for Amiga / Video fans. Separate RGB controls to croma key on any colour. **INDI PRICE £199.99**

Special Effects Packages

Morph Plus You've seen Michael Jackson's video, you've seen the television adverts using the latest techniques in morphing, now you can create the same results but at a fraction of the cost. Morph Plus is the latest and the ultimate in this technology. Whether you are a professional artist or just want to experiment at home Morph Plus is a must. **INDI PRICE £119.99**

Deluxe Paint IV AGA Combines powerful tools with an Intuitive interface so both professionals and beginners alike can get superb results quickly. New enhancements to the software include the ability to paint and animate in 4696 colours in the Amiga Ham (hold and modify) mode. New animation features also include metamorphosis allowing you to change one image into another. You determine the number of frames and DPaint does the rest. **INDI PRICE £64.99**

Art Department Professional V2.5 The ultimate in image processing providing many key benefits to AMiga users working with pictures. With ADPro you can read, write and convert between most common image file formats with unmatched flexibility. Full support for JPEG images makes it possible to maintain an image library in full 24 - bit colour without needing massive hard drive storage. Typically a 600Kb image can be compressed down to 40Kb!!! **INDI PRICE £132.99**

Real 3D V2 Is a full featured 3D animation modeling and rendering program. With Real 3DV2 you can produce high quality images and animations of three dimensional models with an astounding level of realism. Imagine creating an animation that shows a handful of balls bounce down a flight of stairs to the bottom. Gravity, collision, deflection and the elasticity of the balls are all automatically calculated by the program. **INDI PRICE £338.99**

Brilliance

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The most powerful word processor to grace the Amiga...90% - **CU Amiga**

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Roctec RocKnight A virus can be very expensive, so why not protect your Amiga A500 / 600 or 1200 with this great Anti-Virus unit. Fits between your floppy drive and Amiga. **INDI PRICE £2.99**

Amiga 500 Power Supplies Very expensive when you can get them, so here's a once only chance to solve a problem at a crazy price. **INDI PRICE £29.99**

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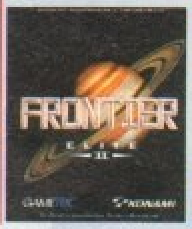
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A1200 STANDARD FEATURES
* 68020 Processor * PCMCIA Slot * 2Mb Chip RAM * 3.5" Internal Floppy Drive * AA Chipset * Built in TV Modulator * Alpha numeric Keypad * 12 Months at home maintenance.

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Hard Drive Options inc. Batman returns /Elite II

60 Mb Hard Drive Pack	£469.99	80 Mb Hard Drive Pack	£489.99
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12 Months At Home Warranty from ICL

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Some advertisers are fitting 3.5" drives to the Amiga 1200. The Amiga was never designed to accept 3.5" drives and fitting one totally invalidates any Commodore Warranty. Indi only offer official 2.5" IDE drives officially accepted by Wang, ICL and Commodore.

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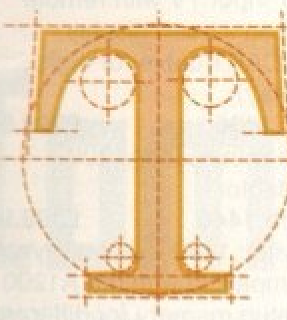
COVER STORY



Are Commodore still hovering on the brink, or are the A1200 and CD32 dragging them back from the abyss? We look at the Amiga's future on page 33

THE COVERDISK

Page 20



Personal Fonts Maker

Tired of those boring Amiga fonts? Now you can create your own character sets with this exclusive, fully functional font designer. You can even download them to your printer!



Legacy of Sorasil

System presents an exclusive demo of Gremlin Graphics' Hero Quest sequel – The Legacy of Sorasil. Take on demons and avoid traps in this stunning role-playing journey into the unknown

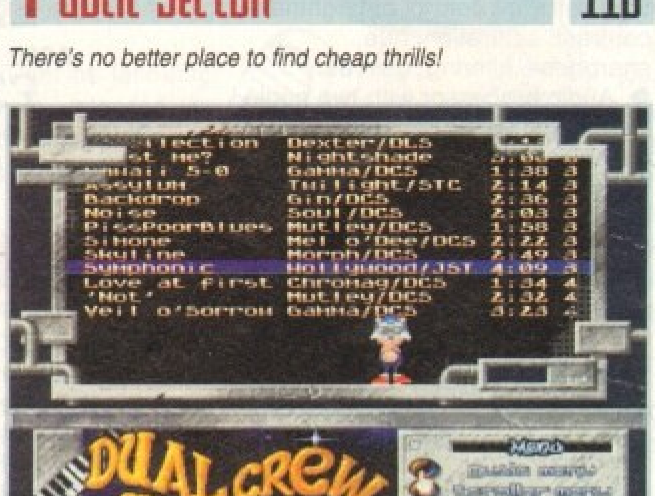
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Pages 102 166

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- Thermal max transfer colour printer
- 144 element head
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- Norton rating 15
- Plugs into GVP II HD

GVP PC-286 Emulator	£89.00

Legend Trakball

Ergonomically designed Trak Ball. 320Dpi resolution, 2 microswitched buttons. The Legend Trak Ball is very easy to use. Unlike normal Trak Balls the LEGEND is operated with the thumb freeing the fingers to click buttons.

ONLY £29.99

GVP Genlock

- Video processor provides real time software control of brightness, contrast, saturation, hue, sharpness, filtering, gain etc.
- Audio processor with two audio inputs, software switchable or mixable, with software control of Volume, Bass and Treble effects.

G-Lock Genlock	£284.00
Rendale 8802 Genlock	£149.99

A1200 Hard Drives

Plugs into PCMCIA slot
Fully external, doesn't affect warranty

170Mb Overdrive	£349.99

Phone for higher capacities.

Amiga Packs

Amiga A600 Wild, Weird, Wicked Pack £194.99
Includes A600, Pushover, Grand Prix, Putty, Dpaint III.

A1200 Race & Chase £289.99
Includes A1200 with 2Mb RAM. Trolls and Nigel Mansell

A1200 Desktop Dynamite £339.99
Includes A1200 with 2Mb RAM, Digita Wordworth, Digita print manager, Deluxe Paint IV, Dennis, Oscar

Amiga CD32 £289.99
2Mb RAM. Dual Speed CD ROM. Multi session, plays music CD's, 256000 colours on screen, includes 2 games Oscar and Diggers.

Amiga 4000 030 £999.00
Includes A4000, 030 processor, 2Mb Chip RAM, 80Mb Hard drive.



Eklipse Mouse

- 290dpi resolution
- 2 Microswitched buttons
- Opto/Mechanical mechanism
- Switchable between Amiga/ST
- Direct Mouse Replacement

Eklipse Mouse
£11.99

Floppy Drives

- 880K formatted capacity
- Double sided, Double density
- Through port

Amitek Drive	£59.00
A500/600 Internal Drives	Phone

RAM Upgrades

A500 512K upgrade **£16.99**

A500+ 1Mb upgrade **£24.99**

A600 1Mb no clock **£34.99**

Plugs straight into A600 trap door compatible with A600, A600HD

A1230 Accelerator

- 40MHz 68030 accelerator
- Makes your Amiga 1200 run over 7 times quicker.
- Allows up to 32Mb RAM
- Optional FPU

A1230/0Mb/No FPU	£289.00
A1230/4Mb/No FPU	£429.00
A1230/4Mb/68882 FPU	£529.00

Monitors



Samsung C13352X £179.99
14" SCART input TV with remote control and on screen display (requires SCART cable for high quality display)

Microvitec 1438 £299.99
Compatible with A600/A1200, includes adaptor

Microvitech 1440 £399.99
The Microvitec 1440 is a multisync monitor compatible with the A1200. Includes setup memory for different resolutions.

Colour SVGA Monitor £229.99
High quality Colour SVGA Monitor .28 dot pitch.

A1200 VGA adaptor	£11.99
Falcon VGA Adaptor	£9.99
Philips SCART to Amiga	£9.99
8833 MKII to Amiga	£9.99

Falcon 030

- 16MHz 32 bit 68030 Central Processor, 16MHz Blitter, 32MHz 56001 Digital Signal Processor
- 1.44Mb 3.5" Floppy, up to 14Mb RAM. Displays 65536 colours from 262144 palette
- 8 Channel, 16 bit, high quality Stereo sound sampling

FALCON 1Mb No HD	£499.00
FALCON 4Mb No HD	£699.00
FALCON 4Mb 64Mb HD	£799.00
FALCON 4Mb 127Mb HD	£899.00
FALCON 4Mb 209Mb HD	£999.00
Falcon Screen Blaster	£89.00

Repair Services

Our Service department can repair Amiga's in minimum time at competitive rates. We can arrange for courier pickup and return delivery of your machine to ensure it's safety. We even have a same day service which will ensure your machine is given priority and subject to fault, completed the same day. We offer a Quotation service for £15 for which we will examine your machine and report back with an exact price for repair. If you do not wish to go ahead with the repairs then just pay the £15. However if you do go ahead then the charge is included in the minimum charge. Please note: The minimum charge covers labour, parts are extra.

Quotation service	£15.00
Min repair charge	£35.25
Courier Pickup	£11.00
Courier Return	£7.00
Same day service	£15.00

NEWS

By JOHN BUTTERS

Commodore prepare for summer sales

TWO bundles which Commodore believe will attract entry-level Amiga sales through the spring and summer have just been unveiled by the firm.

Computer Combat is the name of the latest A1200 pack – not surprisingly billed as Commodore's biggest and best value introduction ever to the Amiga computer.

The £349 bundle contains seven software packages – split between productivity programs and some recent games aimed at showing the computer's versatility.

They include Psygnosis platformer Brian the Lion, Zool 2 from Gremlin Graphics and Total Carnage, ICE's conversion of the coin-op shoot-'em-up.

Three of Digita International's productivity programs are packed with the machine – word processor Wordworth v2, personal organiser Day-by-Day, and the Print Manager utility.

But after several years' inclusion in Amiga bundles, Electronic Arts' art package Deluxe Paint has been replaced by Personal Paint 4 from Italian developer Cloanto.

Commodore say that after a run of packs containing the EA program, they believe the time is right for a change and Personal Paint is an ideal replacement.

The software supports HAM screen modes and is claimed to offer a huge array of image processing tools and the ability to support many file formats.

And Commodore have continued their policy of rotating software packed with the CD32, now offering buyers two 32-bit games including Psygnosis's Microcosm.

It is joined by Renegade's Chaos Engine and while stocks last the £299 Spectacular Voyage pack will include the four games from the Dangerous Streets bundle it supersedes.

Microcosm took programmers three years to create. It is set inside a human body where the player mans a miniaturised craft sent to save an important dignitary from virus-like villains.

The Bitmap Brothers' Chaos Engine takes place in a Victorian age in which ten mercenaries seeks to destroy the out-of-control chaos engine.



Packs: CD32 and A1200 now come with new software

Dangerous Streets contained the games Dangerous Streets, Wing Commander, Diggers and Oscar.

"I consider it paramount that every new bundle should be better than the last," said Commodore managing director David Pleasance. "But it gets tougher every time."

The A1200 Desktop Dynamite bundle which proved popular with buyers over Christmas will be available from dealers while stocks last.

Industry kills Monitor Man

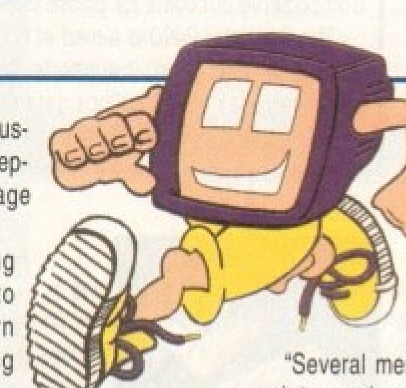
MONITOR Man has been dropped from the games industry's classification artwork just weeks after the body representing Europe's software houses launched the age rating system.

And two games makers will not be following the ELSPA system, which is intended to ease Government and parental concern over the suitability of some software for young children.

Nintendo and Acclaim say that although they agree with the system's objectives, they would like to take a global view on the situation and are looking to the US for an alternative.

Other companies are also believed to be hoping that a replacement comes along, although many are simply relieved that Monitor Man has been removed from boxes.

There was criticism that the character was outdated and newspaper *Computer Trade Weekly* questioned its suitability for the interactive entertainment industry of the 90s.


Monitor Man: Outdated and unsuitable

"Several members decided that Monitor Man was not appropriate, and as a result the ELSPA logo has been put in its place," said ELSPA chairman Mark Strachan.

"We've been working on this system for a year. It was passed unanimously by members and will go ahead."

He added that while some firms were looking towards worldwide classification, he thought such a system would be impractical because of different standards across the world.

NEWS BRIEFS

CD32 in TGI promo

COMMODORE have teamed up with TGI Friday to help launch the restaurant's new Kids Club and further boost the Amiga's image with the young.

Children joining the club have the chance of winning one of three CD32 Dangerous Streets bundles – each worth £299 – and receive goodies including a magazine, Frisbee and T-shirt.

Details of the Amiga promotion will appear on all placement settings at TGI's 13 restaurants for the next few weeks.

Silica join Debenhams

SILICA Systems, the London-based hardware and software dealer, are to expand their High Street presence by opening computer shopping areas in Debenhams stores.

The first to open will be in the shop on Oxford Street, London, and there are plans to step up the operation in provincial cities such as Manchester.

The company already have their own shops in Sidcup and on Tottenham Court Road, London and trade from Debenhams in Croydon and Ipswich.

Clock watching

A SOFTWARE-based real-time clock that runs alongside the Harlequin 32-bit frame buffer has just been announced by Zen.

It will enable a breakfast television-style clock to be displayed in broadcast material produced with Amigas, and can be moved about the screen.

Amiga Centre Scotland (0896 87583) will be selling the program, but price remains to be fixed.

Wordworth update

WORDWORTH 3 compatibility problems have been ironed out of the software with the release of a technical update by maker Digita International (0395 270273).

Version 3.0a of the word processor is free to all registered users, and also features an improved operating speed and a "general tune-up" of the package.

"Our programmers have done an excellent job in responding so quickly to customer feedback," said Digita boss Jeremy Rihll.

"Users will notice that Wordworth now feels tighter and faster, includes enhanced file export filters and drag and drop editing."


LCL: Speech added to language courses

Speaking the language

SPEECH has been added to language software specialist LCL's range of Amiga courses following the success of Micro Spanish, their first program to feature talking.

The firm say animated cartoons that speak and speech from a native speaker make their French, German and English courses a more enjoyable and effective experience than ever before.

Pictures, adventure games and music are also used in an attempt to take students from beginner to GCSE standard.

All three courses – each costing £24.99 – are claimed to follow the National Curriculum closely and the attainment targets of each program are given in their manuals.

Upgrades from earlier versions cost £5 plus the return of the original disk to LCL at Thames House, 73 Blandy Road, Henley-on-Thames RG9 1QB. Tel: 0491 579345.

Network grows for Interworks

CLWYD-based Amiga specialist Ramiga have expanded further recently by setting up European distribution for California-based Interworks' networking products.

The firm's range of solutions will be support by professional training programmes and technical support by telephone and a bulletin board.

They include networking software ENLAN-DFS v2 and the I-Card PCMCIA Ethernet card for the A600 and A1200.

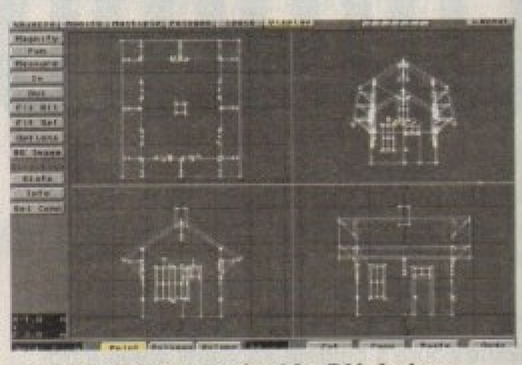
The I-Card package includes a 16-bit Ethernet adaptor and a driver compatible with Commodore's SANA-II networking standard to allow the Amiga to tie-in with the firm's ENLAN-DFS.

Each ENLAN-DFS package enables up to five Amigas fitted with Ethernet adaptors to share directories and peripherals, and is supplied with all software needed to network the computers.

"Interworks have always been interested in developing a much closer working relationship with our overseas partners," said company president Allen Brooks.

"This new partnership between Interworks and Ramiga established a path dedicated to building and supporting a professional reseller channel throughout Europe."

I-Card and ENLAN-DFS cost £292.58 each from Ramiga International (0690 770304).


LightWave: Now promised for PAL Amigas

LightRave to run LightWave

ANIMATORS can now use graphics software LightWave 3D on European Amigas not fitted with a Video Toaster, according to Ramiga International (0690 770304).

LightWave is regarded by experts as one of the premier graphics packages for the Amiga, being quick, powerful and very easy to use.

But until now it could only be used on American systems fitted with NewTek's expensive Video Toaster in a complete package costing around £2,000.

Ramiga claim that custom hardware module LightRave emulates all the functions needed by LightWave 3D, and that they can sell the two products for £799.

The company also say that LightRave delivers faster rendering than a Toaster-equipped Amiga and has support for most 24-bit graphics cards.

Full screen preview animations are promised, and because images are stored in standard Anim formats they can be transferred and edited by other programs.

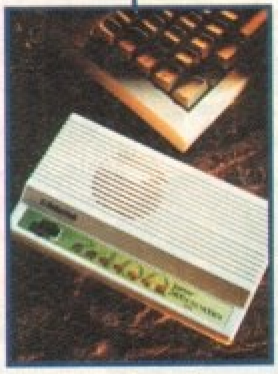
Fax modem falls under £100

COMMUNICATIONS prices have fallen further, with US Robotics (0753 811180) now cutting the price of their Sportster 2400 fax modem from £149 to £99.

The move comes as rival manufacturers launch cheap modems, telephone prices continue to fall and just weeks after on-line system CompuServe cut costs for British users.

The Sportster 2400 is aimed at home and small office users who do not need high data rates. It supports Group III, 9,600 bits per second send and receive fax with 2,400bps data throughput.

The modem is BABT approved and comes with a five-year warranty.


Sportster: Fax and modem for just £99

Telephone help goes automatic

AN automated telephone answering system just set up on Commodore's official helpline enables Amiga owners to discover solutions to their problems in an efficient way.

It registers the caller's question to a chain of answers and by elimination arrives at the solution they are looking for.

Calls vary from dealers asking how to resolve a fault in the machine to users wanting to know how to plug it in.

"We introduced this service to allow callers to solve problems themselves with recorded information," said Commodore's customer service manager Terry Maguire.

"This frees up the receptionists to get engineers out to users more quickly."

ICL's Peter Horridge added: "Most caller are happy to use the automated service. But we mustn't forget that we have to keep a balance between automation and human contact."

The help is available to holders of an ICL warranty by telephoning 0345 626090.



Books: More help for Amiga enthusiasts

Books give serious help

AMIGA enthusiasts wanting to use their computer for more than playing games are targeted for three new books in a series called Get Serious With Your Amiga.

They will cover fonts and clip art, word processors and buying an Amiga. In *Fonts and Clip Art*, there are examples from the public domain and information on how to identify the types of font and clip art available for the Amiga.

Word Processors outlines the difference between text-based and what you see is what you get (wysiwyg) programs, and where the line is drawn between word processing and DTP.

There is a 36-page look at three new packages – Wordworth 3, Final Writer and Protext 6 – and a chapter showing projects which can be tried using the reader's software.

And *Buying an Amiga* has been written for the newcomer. It is claimed to give independent advice on how to get the best computer and a glossary of terms relevant to the machine.

Publisher AmaKey Design (0908 370230) say they aim to provide low cost titles that everyone can afford and intend to make updates as and when hardware and software change. Each title costs £9.95.

Graphics system uses video speed

A NEW version of Great Valley Products' IV24 video graphics system will soon be launched to take advantage of the A4000's faster video bus.

The developers say it will be twice as fast as the existing board when installed in the A4000 and perform as well as before in other Zorro-based Amigas.

The IV24-A4000 software has been upgraded and will be accompanied by ImageFX v1.5, which fully supports the IV24 for frame grabbing, video processing, painting and rendering to tape.

The British distributor is Silica Systems, who can be telephoned on 081-309 1111. At press time prices remained to be fixed.



Smart One: Up to 14,400 baud plus fax

Modems extend Siren range

SIREN Software have added Best Data's Smart One line of modems to their range of Amiga products, with prices starting at just £69.99 for a 2,400 baud model.

But according to Siren's Simon Cobb, the Smart One 1442FX costing £199 offers the best features and value for money.

It operates at between 1,200 and 14,400 bits per second, can send and receive faxes at 14,400bps and is fax Group III-compatible.

The modem comes with N-Comm 3 software, a two-year warranty and beginners' guide. Fax software is available from the firm for an extra £49.99.

"Although a cheaper 2,400 standard modem is available, this is not really cost effective because you run up higher telephone bills," explained Cobb.

British support extends online

ONLINE information giant CompuServe (0800 289378) have announced a range of new services aimed at their 35,000 British members.

The company's product marketing manager Martin Turner says the first new service – expected within the next few weeks – will feature reviews of films, movies, books and theatres.

A Newswire feature due around the same time will contain news and sport information from around Britain. And the company plan to extend their financial and travel services, although Turner declined to give more details on these improvements.

"We recently launched four travel databases provided by the Automobile Association which are already proving to be very successful," said Turner.

"Within the coming months we expect to introduce a number of leading UK-focused news, travel, entertainment and financial products."

Members pay around £6 per month for unlimited access to more than 70 basic services during off-peak hours. There are additional costs for access to other areas and during prime hours.

Video help for ImageFX

A VIDEO tutorial showing how to get to grips with Great Valley Products image processing tool ImageFX 1.5 has just been released.

The three-and-a-half-hour Video Guide to ImageFX covers everything from basic procedures and concepts to hi-end techniques aimed at saving time and creating the best images.

There is a step-by-step guide to the tool panel and an introduction to configuring the software for a user's individual needs.

"First-time users will benefit from the itemised coverage of the tool panel, preferences settings and many other features of ImageFX," said GVP's product manager Gary Nash.

"Experts will appreciate the time-saving tips and professional techniques offered to make every project look better in less time."

GVP's British distributor Silica Systems (081-309 1111) did not have UK availability details at press time.

Playing back in real-time

DIGITAL Processing Systems' Personal Animation Recorder now available in Britain allows animation sequences to be recorded and played back in real time direct from hard disks.

Previously only available on American systems, the DR-3150 card plugs into Zorro slots on the A2000, A3000 and A4000 – replacing the record VCR and single frame controller.

Component digital recording techniques enable the recording and real-time playback of full resolution animations, avoiding bad edits, missed frames and drop-outs well-known to VCRs. Support is available for common Amiga image formats including 24-bit IFF and the card is claimed to be fully compatible with programs such as Real 3D, MorphPlus and Imagine.

Sequences built from pre-rendered AmigaDOS files can also be run from the £1,968 card, and the set-up can be expanded with DPS's AD-3000 Video Capture card. The AD-3000 – costing £1,051 – carries out real-time continuous video captures for adding human-style movement to animations (rotoscoping), time lapse and other special effects.

The DR-3150 needs a dedicated hard drive, with a 500Mb model expected to give between three and five minutes of storage capacity depending on image complexity.

Both boards are sold by Amiga Centre Scotland, who can be telephoned on 0896 87583.

Stars in their skies

Denny Atkin brings news of an astronomically powerful new program, as well as the rest of the news from the States

USA news

Virtual Reality Labs Inc have just released a new version of their acclaimed desktop planetarium program, Distant Suns. Release 5.0's biggest improvement is full AGA support for A1200 and A4000 owners.

You can now pull up 256-colour images of planets, moons, and other celestial objects – about 25 are included with the program, and you can add your own to the database.

The user interface has been improved with a new tool box with 20 buttons covering the most commonly used functions. A total of 8,000 stars from the *Hubble Guide Star* catalogue are now included, supporting stars down to 16th magnitude (so dim that most amateur telescopes can't resolve them).

If that's not enough for you, VRLI are considering creating a Distant Suns CD-ROM with the entire 16 million star *Hubble Guide Star* catalogue.

If you have a CD-ROM drive on your Amiga and you're interested in that (or in a version of VistaPro on CD packed with landscapes), VRLI ask that you drop them a note or fax them and let them know.

You're no longer limited to just star gazing. Distant Suns will now render planets as 3D solid objects, complete with optional grid-maps showing latitudes and longitudes. You can zoom in and view each planet from eight different angles.

Other improvements include new ARexx commands for automating your viewing and more precise field-of-view adjustments. Distant Suns v5.0 requires AmigaDOS v2.04 or later, 2Mb of RAM (with at least 1Mb being chip RAM), and a hard drive. The program retails for $99.95; upgrades for owners of any previous version are $39.95. Add $10 for overseas air mail shipping.

VistaPro, the popular 3D landscape rendering program, is in for an enhancement as well. Version 3.1 was being finished up as this article was being written, and is expected to include better AGA support, as well as support for the Picasso, Retina and OpalVision display board.

Also new is the ability to export your landscape files in AutoCad DXF format, so they can be brought into 3D rendering programs.

Pricing wasn't available as this went to press contact VRLI for upgrade information at phone (805) 545-8515; fax (805) 781-2259; or write them at 2341 Ganador Court, San Luis Obispo, California 93401 USA.

GVP ditch SCSI-2 card for the A4000

GVP have cancelled development of the A4098 SCSI-II card. This follows their advertising of the A4098 SCSI-II card, a Zorro III DMA adaptor for the Amiga 4000, for the last few months. GVP marketing manager Steve Peoples said that the company weren't satisfied with the card's performance due to the DMA problems that plague the A4000/040.

Rather than release a card that wouldn't perform well on the majority of A4000s in the field, GVP halted development until Commodore can provide a solution for the Zorro III DMA problem.

If you have deep pockets, though, you can still get a fast SCSI-II solution from GVP. The soon-to-be-released G-Force 040/40MHz card for the Amiga 4000 will have an optional SCSI-II FAST expansion card. Because the card mounts on the G-Force processor board, it's not affected by the bad-Buster Zorro DMA transfer problems.

Shoot the Moon

Following on the heels of Microbotics' acquisition by Paravision, hard-disk utility manufacturers Moonlighter Software Development's product line have been acquired by Intelligent Designs Inc. The company will continue to support and develop Ami-Back, Ami-Back Tools, and TapeWorm-FS.

Proof of the company's continued commitment to the products is IDI's announcement of Ami-Back 3.0, which should be available early this summer.

The updated hard drive backup program will be the first ever to use an object-oriented user interface, which should make it easier to use for novice users, but more powerful for experts.

New features include support for the Tar tape-backup format, useful for transferring files to PCs, Macs, and Unix machines; SmartScribe, an intelligent script-recording feature; backup or restore of multiple devices in a single operation; and full support of AmigaDOS 3 features.

The new user interface is helped out by thorough on-line documentation with a comprehensive index. Ami-Back 3.0 will retail for $89.95; a discount will be available for registered users of earlier versions.

● *Contact Intelligent Designs, 5742 Old Cheney Highway, Orlando, Florida 32807; phone (407) 382-0227; fax (407) 384-9391.*

ImageMaster Redux

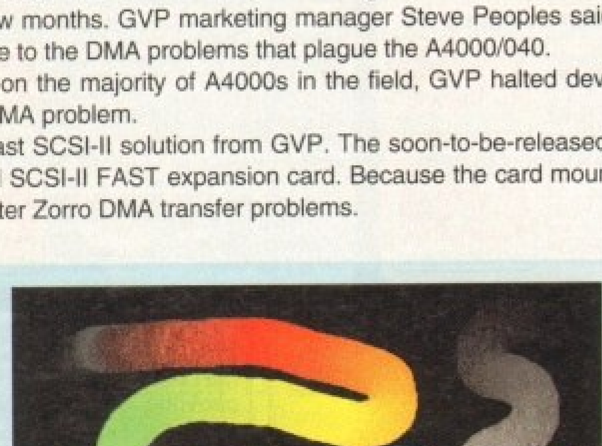
Black Belt Systems' new ImageMaster R/T 1.5 adds a host of new abilities to what was already one of the most feature-packed image-processing programs on the market.

Many of the image operators – such as radial wave, dome, and caricature – have been greatly improved, and there are new operators such as Gaussian Blur.

Display speed on AGA machines have been increased, and ImageMaster R/T now supports loading and saving all the major Anim formats – Anim5, Anim7, and Anim8.

The interface has been revamped, with new area selection capabilities, zebra stripe area selection indicators, and more accurate selection boundaries.

The morphing interface has also been upgraded, and there's a new easy-to-use spline-based sequencing interface.



And if you're using ImageMaster's paint functions, the new drawing tablet support. ImageMaster R/T has done away with paper documentation in favour of on-line hypertext help.

Normally I don't like this option – it's nice to hold a complete manual in your hands when you're working with a program – but Black Belt have outdone themselves with their help system. ApAssist is a very easy-to-use, fast hypertext program that allows Black Belt to embed illustrations in their help files.

With a program as complex as ImageMaster, having the documentation on-line is actually a plus. ImageMaster R/T's retail price has been dropped to only $99.95. Upgrades are available for $25 for US users, and $30 outside the US Orders must be in American funds, but credit cards are accepted. Contact:

● *Black Belt Systems, 398 Johnson Road, Glasgow, MT 59230; phone (406) 367-5513; fax (406) 367-2329; BBS (306) 367-2227.*

Ringing the changes



Noticed anything different about Amiga Computing this month? If you have, you might like to know why you are responsible

Magazines don't change the way they look all that often, and it is even rarer that they make an effort to change the style of their editorial content.

This month, we have begun a process of change which, over the next couple of issues, will tailor *AC* to fit your tastes and preferences even closer than before.

Your answers and responses to the reader survey carried out late last year are the impetus behind this process, and without you the change would not have taken place. So just who are you anyway?

We have always appealed mostly to the older reader with a broad range of interests, rather than the single-minded teenage games player, but the last year has seen a huge rise in the number of mature enthusiast readers the magazine attracts. Over 90 per cent of you, for example, are over 18 – a much higher figure than shown by the previous survey.

Consoles seem to have siphoned off the younger users to leave a more stable readership with productivity and enthusiast pursuits highest on the list of favourite Amiga uses, and the number of you who are interested in programming has also increased.

As a direct result, we've decided to make a few changes. The general re-styling of the front cover and main features pages was an attempt to give the magazine a more 90s look and feel for the older reader, and we have introduced more programming tutorials, but probably the biggest change is in the games department.

Gamer, our long-running games section, was never properly integrated with the rest of the magazine in terms of style or content, and though we believed it was relevant to the sons and daughters of many of our readers, we noticed from all surveys that most of you are still very interested in games.

To bring you a modern games section with the modern reader in mind, we've decided to scrap *Gamer* completely and start from scratch. The new approach concentrates on presenting as much information as possible while incorporating a scoring system to which readers can relate.

New games will be compared, briefly, to existing games of the same type, and the method by which we score all games has been radically changed. From this month onwards, all games start with 50 per cent, and go up or down if the reviewer thinks they are better or worse than average.

> We noticed from all surveys that most of you are still very interested in games

To most magazines these days, 80 per cent is an average score, and anything below 70 per cent is truly awful. Under System's new scoring regime, a game would have to be very good to score 80 per cent, and 70 per cent would still be a good score worthy of a medal.

The debate over scoring, however, is still going on in the office, with two equal camps fighting it out for the upper hand. Some support a percentile system, others would like to see games marked out of 20 or even ten.

We'll be looking at how the scoring works over the next few months, so if you have an opinion on how it should be done, please write and share your views with us.

GRATIFYING

Our coverage of serious hardware and software has been tweaked rather than changed because a gratifyingly large number of you stated that you were satisfied both with the level of coverage and the style in which the more technical reviews are written.

Only a few of you thought them too technical or confusing, but to ensure that we reach everyone we will be placing more emphasis on jargon busters and explanations for beginners without, hopefully, exasperating our more erudite readers.

Where possible and relevant, we will also strive to bring you background information on new products and the markets in which they will be sold.

Profiles of the developers, and overviews of, say, the videography industry should put product reviews into perspective and give readers a better understanding of where the latest wizzo gadget comes from.

A criticism of this style has, in the past, preached that reviews should concentrate solely on the subject at hand, but we feel from looking at the views of our readers that you are a bunch of well-balanced people with broad interests.

If we can present the information you buy the magazine to read and, in addition, inform and entertain you with related material, we hope you'll agree that the magazine will be a better overall read.

The use of background and related material will also be prevalent in System, our new games section, so we hope you enjoy the new feel to reviews.

If not, and you object strongly enough to write to Ezra Surf, please do. We are determined that before 1994 is out we will have reached a formula with which the vast majority of those who pay our salaries are content.

The AC team

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We regret Amiga Computing cannot offer technical help on a personal basis either by telephone or in writing. All reader enquiries should be submitted to the address in this panel for possible publication.

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For six years *Amiga Computing* has been the leading magazine for Amiga enthusiasts. As a key member of the Europress magazine group, *Amiga Computing* promises to inform, educate and entertain its readers each month with the most dedicated coverage of the Amiga available.

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Fist Fighter
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Arcade Trivia
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Blade Warrior - A Power, A superb reviews
Arnie
AWARD WINNE
Space Ace, Kick Off, PipeMa (counts as 2)

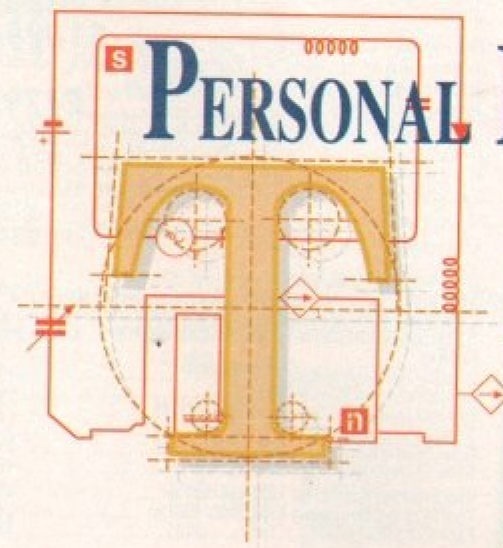
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THE DISKS

PERSONAL FONTS MAKER





Legacy of SORASIL

A font for all occasions

Take it down to the letter with Cloanto's completely stunning Personal Fonts Maker program. Design your own character set in this fully working application

De-archiving your CoverDisk

Workbench 2.0 and 3.0

Users of Workbench later than 1.3 can use the official Commodore installer program which we have especially adapted to de-archive the contents of the CoverDisks with the minimal amount of fuss.

The installer is simple to use; just follow the instructions and click the buttons. Make sure you boot from your CoverDisk with the disk write enabled when de-archiving Personal Fonts Maker and Epoch Master.

When installing Spooler and DTree boot from your Workbench disk or hard drive as the programs are installed onto these disks, although any auto-booting disk will do.

Workbench 1.3

Users with 1.3 machines should double click on the InstallPFM_1.3 to de-archive the Personal Fonts Maker program. We will be working to adapt the Commodore installer so that it works on 1.3 machines in the future.

Hard drive installation

Hard drive owners should simply copy the de-archived programs across but will need to make an assign for Personal Fonts Maker to work properly. Load up Ed then load the start-up-sequence file located in the S directory. Just before the LoadWB command type in:

```
Assign PFM: [pathname]
```

Save the startup-sequence by pressing Esc – x and then Return.

Personal Fonts Maker is a superb, fully functioning application which allows you to create your own fonts. These can be incorporated into your own page layouts, used to improve the Workbench look or downloaded into a printer for finer print quality.

After completing the de-archiving procedure, open up the Personal Fonts Maker disk icon and then click on the PFM icon which will load up the application. Ignore the Audio requester by clicking on the Proceed button.

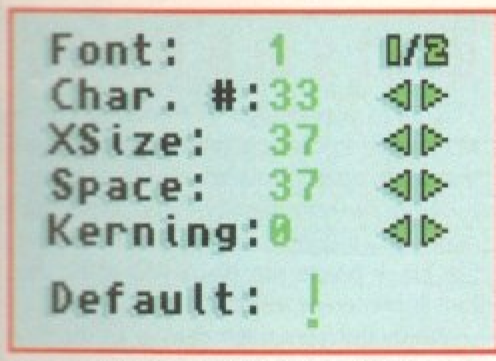
The interface may look fairly complex at first but by following this tutorial carefully you should be able to design your own fonts very quickly. The interface is split into five different sections, four of which are present on the main display at all times.

Most of the screen is taken up by the font editing grid. This is where you actually create each character. To the left are the design icons and above them the font statistics. Beside the main display there are the menu options at the top of the screen.

The first thing to do is to understand how the editing of characters is achieved. Characters within a font can either be on or off which is indicated by the button marked OFF. When saving PFM fonts only the characters marked ON are saved. This saves space, unlike Amiga fonts which save all the characters whether they are On or Off.

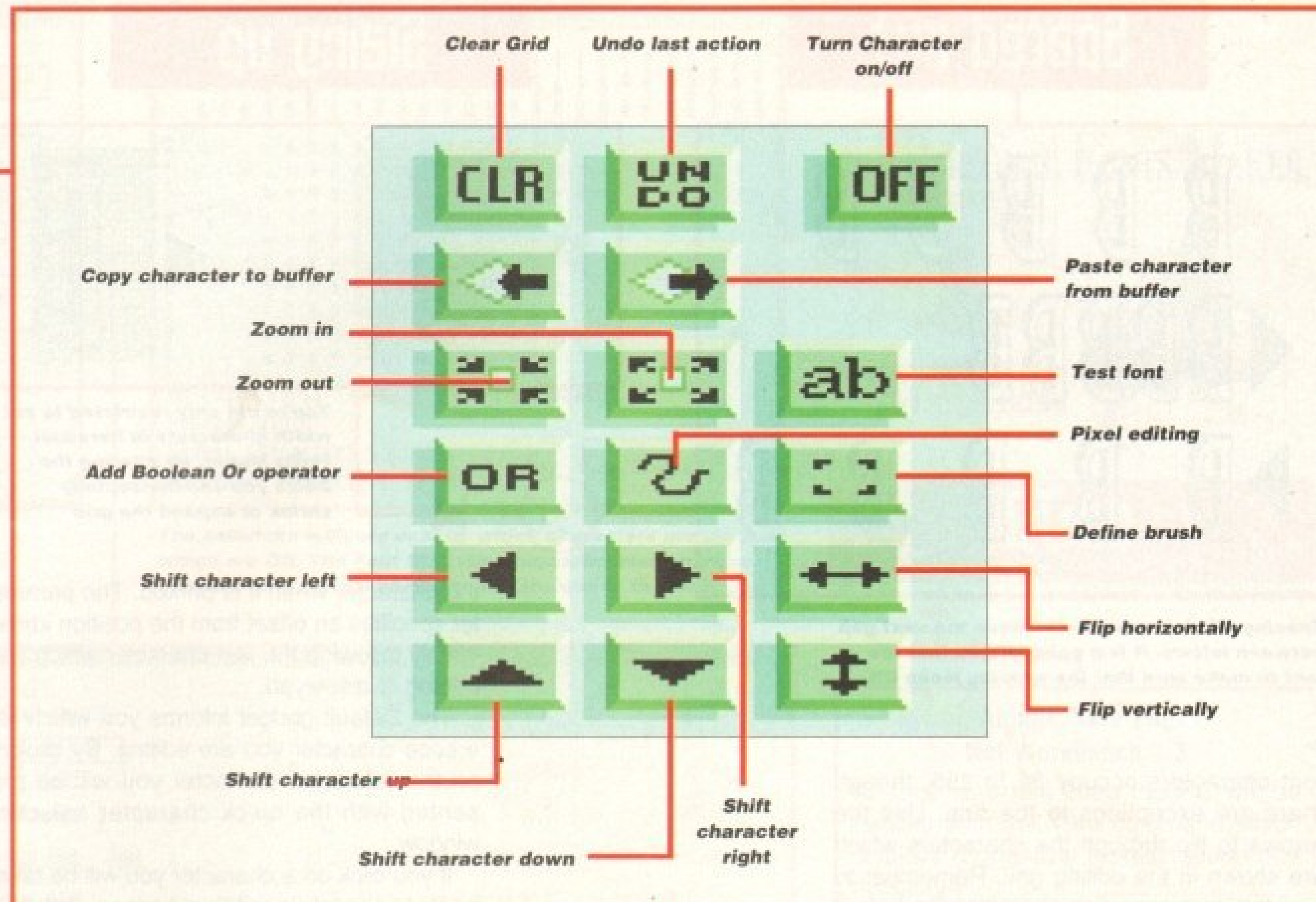
Click on the Off button so that it reads O[n] and you will notice that the grid change[s] colour slightly. This is just to inform that yo[u] can now go about editing that particula[r] character.

Move the mouse over the grid so that th[e] pointer turns to a crosshair, click and hol[d] the left mouse button down and move th[e] mouse around. This will draw pixels onto th[e] grid. Do the same but with the right mous[e]



Every attribute associated with the character you are presently editing can be accessed from here

Tools of the trade



button held down and the pixels will be erased. This is the procedure used to actually create and edit characters.

If you make a mistake you can always click on the Undo button and if you are totally unhappy with your character design, click on the CLR button which will wipe the slate clean, so to speak.

ARROW BUTTONS

The character's position within the grid can be altered by clicking on the four arrow buttons to the bottom left. These will scroll the character in the selected direction and wrap it around should pixels bleed off any of the edges.

You can also flip the character both vertically and horizontally by clicking the buttons alongside the scroll buttons. These will flip the character from the centre axis in the grid.

Apart from the standard drawing of pixels, you can grab a defined section of the character using the brush tool. Click the brush tool and then drag a box around the area in the grid you wish to grab. Using the same technique for drawing pixels you can now draw with the brush. To get back to the basic drawing mode simply click on the draw button.

Using the Load Brush option from the Brush menu at the top of the screen you can load in pre-designed brushes from popular art packages such as Deluxe Paint. Any brush can be rotated, flipped and resized using the options in the Brush menu.

Some of you may prefer to reduce the grid's size so that you can edit the character almost at its actual size. To do this simply click on the reduce or enlarge button respectively. Copying and pasting characters is made very easy thanks to Personal Fonts Maker's user-friendly interface. To copy an icon simply click on the copy to buffer button and to paste it in the copy from buffer button.

The Or button needs a little more explanation and is used primarily with the brush, flip, scroll and copy buttons. When you Or a character with another all the pixels that are black (on) are drawn but any white pixels (off) are ignored. A prime example is to cut an area with the brush and then stamp it down elsewhere on the grid. With the Or button selected none of the white pixels will cover pixels that were previously black. The best way to see the effect is to experiment with a combination of Or and the above buttons.

WINDOW TYPING

The final button, and certainly one of the most important, is the ab button. When you click on this a window will appear at the bottom of the screen. By clicking in this window and typing you will be able to see the effect of your designs.

You can continue editing the character with the window open but if you really need to get rid off it simply click on the ab button again.

Now let's take a look at the font gadgets above the editing buttons. The first gadget is Font. When you first load up Personal Fonts Maker the program automatically loads in two fonts, provided you have enough memory.

By clicking on the Font 1/2 symbol you can alternate between the two fonts, the number of which is displayed alongside the 1/2 button.

The Char# gadget allows you to flip through all the characters in the font. Most

Recording macros

Nothing can be more time-consuming when you have to add the same effect to several characters within a font. Fortunately, Personal Fonts Maker has the ability to perform macros which can be called to perform a certain task.

Draw a square on the editing grid and then press Ctrl-A. The square will be outlined with a shadow. This is called a macro – a series of commands saved as a recording and then played back. Let's create a new macro.

First clear anything you have entered into the editing grid with the CLR button. Select the Macro menu at the top of the screen and then select Start Record.

At this point a requester will appear asking you to select a macro. Click on the C: option and then type in the name of your macro in the text window of the requester – DrawSquare for example. The C indicates what letter you should press in conjunction with Ctrl (the macro hotkey) in order for the macro to run itself.



The macro requester allows you to define recorded sequences which can be played back at any time with a simple key press



You can view all the macros presently loaded by selecting Examine Macros

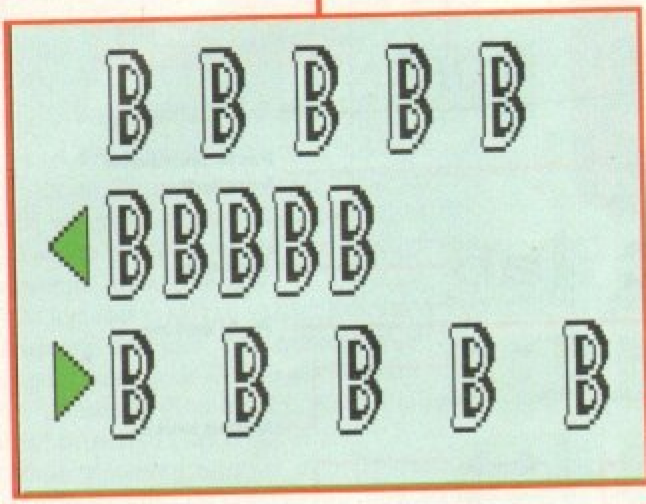
Click on the Proceed button at which point the pointer will turn into an M indicating that a macro is being recorded. Draw a square and then return to the Macro menu and select End Record.

Now CLR the grid and then press Ctrl-C. You should have a square on the editing grid – the exact square you drew when recording the macro. You can store the macro permanently by selecting Save Macro.

The Controlled Execution option in the Macro menu allows you to perform macro functions over entire fonts at a single time. Select the macro you wish to use from the requester and then type in which character range you wish to effect in the From and To boxes.

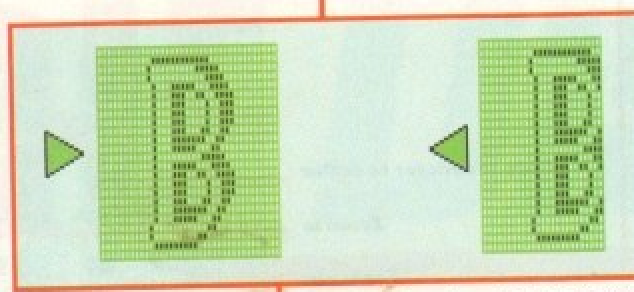
When you click on Proceed the program will set off the macro execution over the range you specified.

Spaced out



Spacing will increase or decrease the next gap between letters. It is a good idea to test the font to make sure that the spacing looks OK

Sizing up



You're not only restricted to set width characters in Personal Fonts Maker. By altering the XSize you can horizontally shrink or expand the grid

➤

font characters occupy 32 to 255, though there are exceptions to the rule. Use the arrows to flip through the characters which are shown in the editing grid. Remember to turn the corresponding character On before you begin editing.

The horizontal size of the editing grid can be controlled using the XSize arrows – the minimum size is 1. A proportional font allows characters to be designed in different widths. The letter I for example would take less space than say the letter M. This also saves on storage.

You can alter the spacing between characters with the Space gadget. This dictates how close the following character will be to the one you are presently editing. It also informs the printer how many dots the printer head has to be moved to the right after the character data is printed.

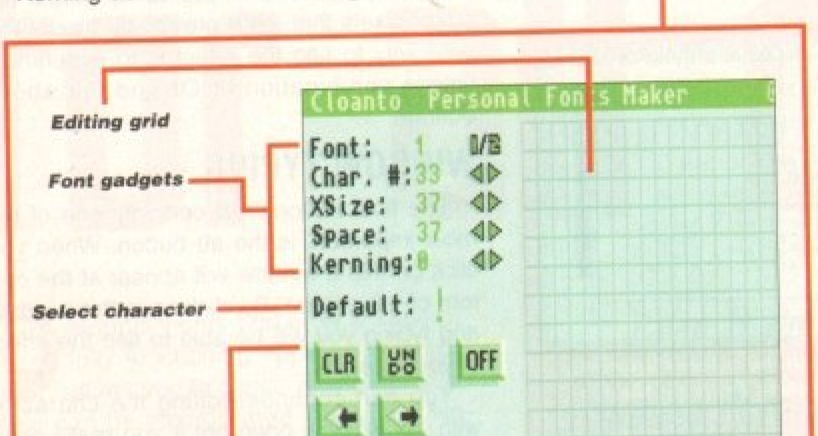
Kerning determines the starting position of the character when it is printed. The parameter specifies an offset from the position immediately following the last character which was printed or displayed.

The Default gadget informs you which reference character you are editing. By clicking on the reference character you will be presented with the quick character selection window.

If you click on a character you will be taken back to the main editing screen with that character in the editing grid. By clicking on the Mode gadget all the characters that are Off will be displayed. You can toggle them On and Off by clicking over them with the right mouse button.

When you are comfortable with the editing tools you will no doubt want to design your own font. The best step is to first design yourself an Amiga font which can be used with word processors and on the Workbench itself.

Font creation made easy



GUIDELINES

Before you start there is one more very useful editing tool you should know about that will make the job easier. Personal Fonts Maker provides four special guidelines that you can use with the editing grid. The guidelines allow you to specify vertical positions down the character as a reference aid. They help to maintain a coherent relationship from one character to another.

The guidelines should be positioned at the height of the capital line, the mean line. the baseline and the underline position. To move a guideline click on it with the mouse and drag it to its new position.

At the point when you click on the guideline a menu will appear showing each one, its colour and associated key – F1 to F4. When you are ready to release the guideline, press the appropriate F key and it will drop into position. When you move through the characters the guidelines will remain fixed in place.

To save your Amiga font you should select Export Amiga Font from the Project menu. A requester will appear asking you to type in the name of your new font. Click on Proceed to save it.

The requester looks for the FONTS directory on your Workbench disk. If you have only one floppy drive you may have to perform some disk swapping. Second drive and hard drive owners needn't worry.

The Attributes menu allows you to assign certain text formatting commands to the fo[nt] you are currently editing. In order to invoke [a] formatting option from the menu all yo[u] need to do is to select it.

A tick indicates that the option has bee[n] selected. To de-select it simply select th[e] option once more and the tick will b[e] removed.

The Project menu features certain optio[ns] that all users of the Personal Fonts Mak[er] should be familiar with.

The reference character set displaye[d] alongside the Default gadget can be edite[d] via the Edit Character Set. This option effe[c]tively dumps the reference set into the ed[it]ing buffer so that it can be altered in th[e] same way you would edit any other fon[t]. The character set can be saved to replac[e] the one that is loaded by the program.

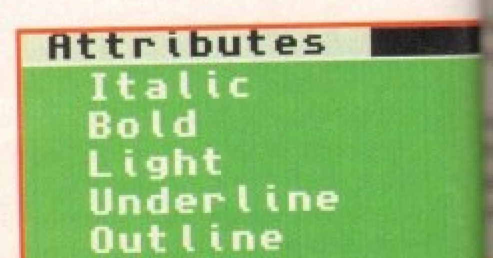
The Printer test option allows you [to] select from four accompanying optio[ns] which act as a printer test so that you se[e] your font in action. You can choose to pr[int] out a Character or an entire Font. A sele[c]tion of FFDL printer drivers are supplied a[nd]

What's in a letter?

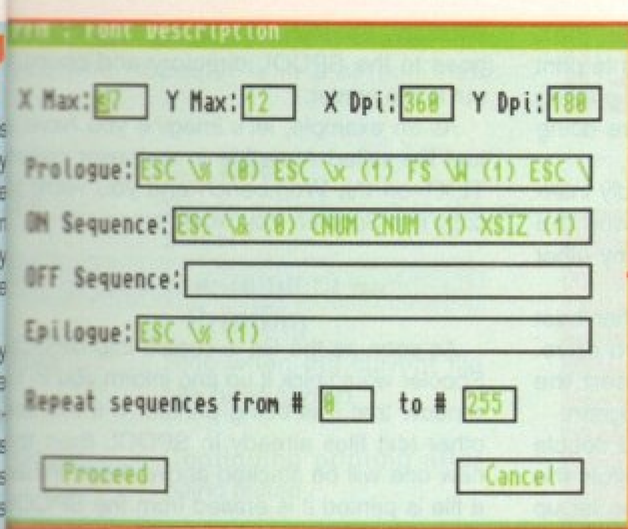
The fonts you design in Personal Font[s] Maker are known as bitmap fonts. The[y] are made up of pixels, the smallest imag[e] a computer can display. The pixels ca[n] either be on (black) or off (white) and on[ly] the black pixels are displayed when th[e] font is printed or displayed.

When the computer comes to displa[y] the font the black and white pixels ar[e] converted into binary, which is how com[puters] operate. Originally, computer[s] could only write fonts in set dimension[s] but the Amiga has the ability to print font[s] in a variety of widths.

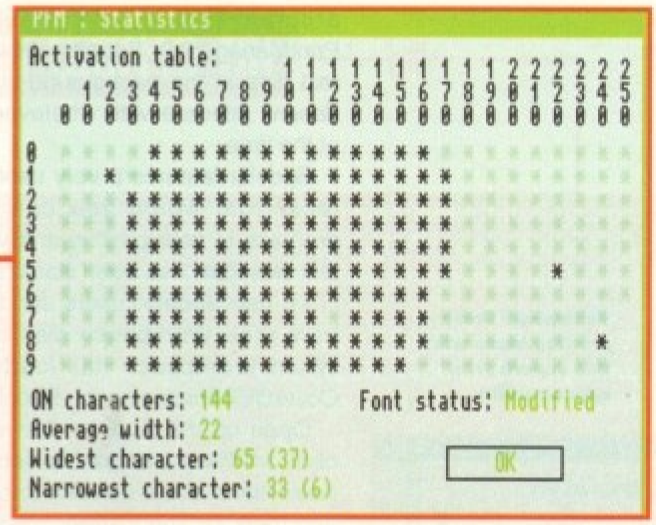
Outline fonts are made up from mathe[matical] points which indicate lines an[d] curves. Therefore, when they ar[e] enlarged or reduced they maintain the[ir] shape, unlike bitmap fonts which becom[e] blocky and unreadable.



The Attributes menu allows you to toggle on or off various text formatting commands that can be associated with your character set



This screen is very important when it comes to downloading fonts to the printer. It set up the font so that it can be interpreted by your printer



The asterisks indicate exactly which characters are On and which are Off. The Font Statistics requester also provides valuable information about the dimensions of the font

can be loaded in from the Preferences menu.

Character prints the character in the editing grid three times, a space and then once again. This allows you to see exactly how it looks when surrounded by other characters. Font prints out all those characters that are switched On.

Font Statistics displays a requester containing general information on the status of the current font. At the top of the requester is a map indicating the On/Off status of each character in the font. Black asterisks are associated with On characters, light green asterisks with Off characters.

INFORMATION

At the bottom of the requester is valuable information about the font – how many characters are On, the average width, the widest character and the narrowest character. Clicking on OK removes the requester and returns control to editing.

In order to download a font you must first load a character set into Personal Fonts Maker. From the Preferences menu you should select Font Description and alter the XMax, YMax, XDpi and YDpi settings accordingly so that the printer can recognise the font format.

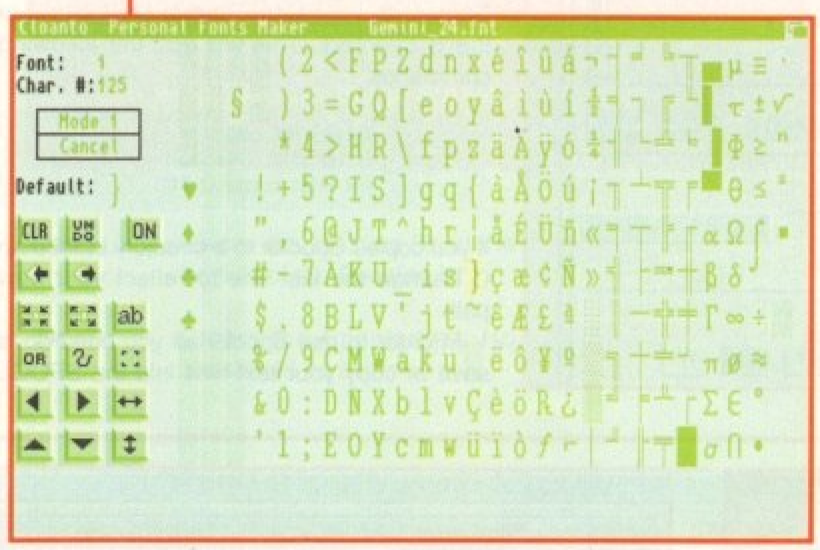
The XMax indicates the maximum horizontal size in pixels of your font and the YMax reflects the vertical length.

The XDpi (dots per inch) and YDpi depend upon the type of printer you are downloading the font to, and these values should be available in your printer manual or can be loaded from the supplied drivers on the disk. Below the font size and printer output settings are the printer FFDL sequences. The FFDL sequences specify which characters in the font are On, Off and how they should be interpreted by the printer.

Some example FFDL sequences are given in the PFM.man document on the Personal Fonts Manager disk. You can always test the FFDL settings by running the Printer Test options in the Project menu.

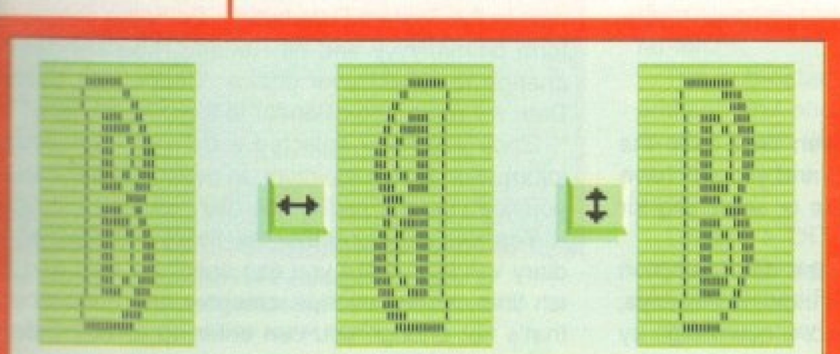
When the font and FFDL settings are correct you can then go about downloading the font. Selecting Write Font Data from the Project menu, you can either send the font directly to the printer or to a file.

If you write the font to a file you can send the data at a later date. Simply double click on the file's icon and it will automatically call the PrintRawFiles program from the PFM_tools drawer which will download the font. Don't worry about inspiration as Personal Fonts Maker includes a grand selection of PFM fonts ready for you to use.



You can select font characters quickly by clicking on the reference character in the Default gadget. This will bring up a display of all the characters. Simply click on the one you want

Go flipping crazy



You can flip characters in all directions using the flip buttons. If more than one character is to be flipped it is best to create a macro to do the work

THE DISKS



DTree

Author: Sam Yee
Not Workbench 1.3

Anyone who has used the PC will be familiar with the Tree command which displays a graphical representation of a directory.

Thanks to Sam Yee, Tree is now available for the Amiga in the form of DTree. To use DTree users should either boot from their Workbench disk or hard drive. When Workbench has loaded, insert the CoverDisk containing the DTree program.

Open up the DTree drawer and double-click on the InstallDTree icon. Follow the instructions in the installer to get DTree up and running.

For ease of use, DTree should be copied to the C directory and run from the Shell using the command:

```
tree [path]
```

eg:

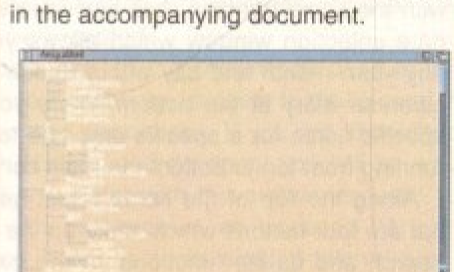
```
tree dh0:
```

There are a variety of commands that can be used with DTree in order for it to display the information you desire.

Color will display the directory tree in colour making it easier to read. Files will show all files that are present in any directories covered by the path, eg:

```
tree color files dh0:
```

There are other commands that can be used with DTree and you can find these in the accompanying document.



DTree – a bonus utility for all we Amiga owners and a smack in the face for all those PC owners

Spooler

Author: J Vande Ginste
Not Workbench 1.3

Print spoolers have always been a favourite on the Amiga but it seems that the PrintManager2.0 program given away on the January 93 issue of *AC* has been causing quite a few problems.

Fortunately, we have totally new spooler program that is far easier to use than PrintManager2.0. Spooler allows you to print text files in the background so that printing doesn't interfere with whatever you're doing at the time.

Spooler features a very user-friendly interface from which you can monitor the progress of your printing and view any other text files that have been stacked.

To use Spooler users should either boot from their Workbench disk or hard drive. When Workbench has loaded insert the CoverDisk containing the Spooler program.

Open up the Spooler drawer and double click on the InstallSpooler icon. Follow the instructions in the installer to get Spooler up and running. The installer will create a directory in RAM called Spool and assign SPOOL to it.

It will then ask you if you want to add Spooler to your User-Startup file located in the S directory. This will add the following commands:

```
makedir ram:spool
assign SPOOL: ram:spool
run >NIL: c:spooler PRT:
```

If you copied Spooler to a directory other than C change the last line to reflect your new path.

In order to use Spooler all you need do is save or copy your text files into the SPOOL directory. Spooler will pick up anything that goes to the SPOOL directory and churn it out to the printer.

As an example, let's imagine you have a text file called AboutMe in a drawer called TEXT on the Workbench and you want to copy it to Spooler. You would type:

```
copy SYS:TEXT/AboutMe to SPOOL:
```

As soon as the file is copied into SPOOL Spooler would pick it up and inform you in its window that it is being printed. If there are other text files already in SPOOL then the new one will be stacked above them. When a file is printed it is erased from the SPOOL directory. Below is a list of those messages and buttons:

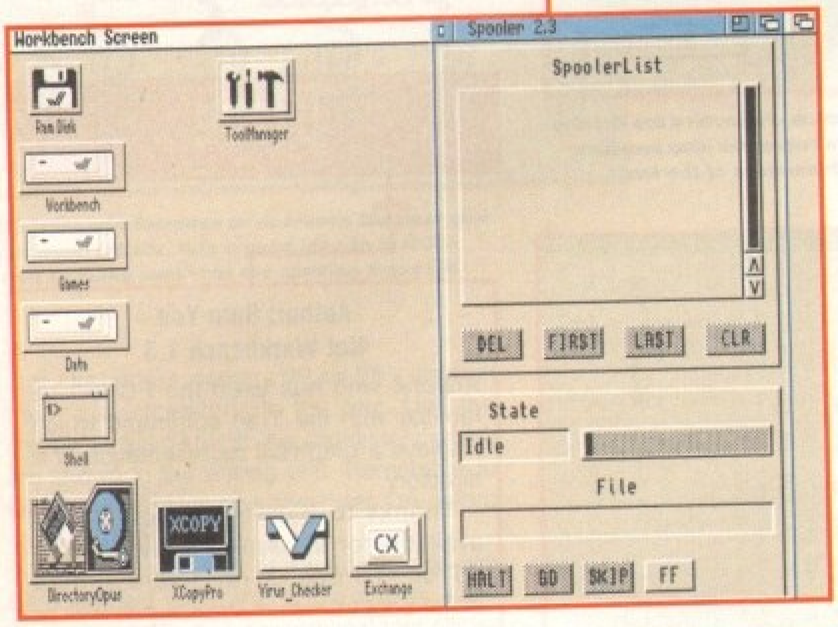
Idle ....Spooler is waiting for a file

Printing ....A file is being output to the printer. The name of the file is displayed in the File-Display window. Progress is indicated by a horizontal bar

Finishing .....This is the same as printing but Spooler will end as soon as the file is printed

Halted ....Printing has been stopped

Take away those printing blues with this superb print spooler utility



Epoch Master V1.1

Author: J Pritchard
Not Workbench 1.3

Almost all Amiga owners have a database, calendar and address book, but wouldn't it be useful if all these programs were combined into one application? Epoch Master does just that.

Written in Blitz Basic, Epoch Master features a calendar which runs from the 16th Century to the year 2999, a powerful address and phone book, and a totally programmable sub-database system.

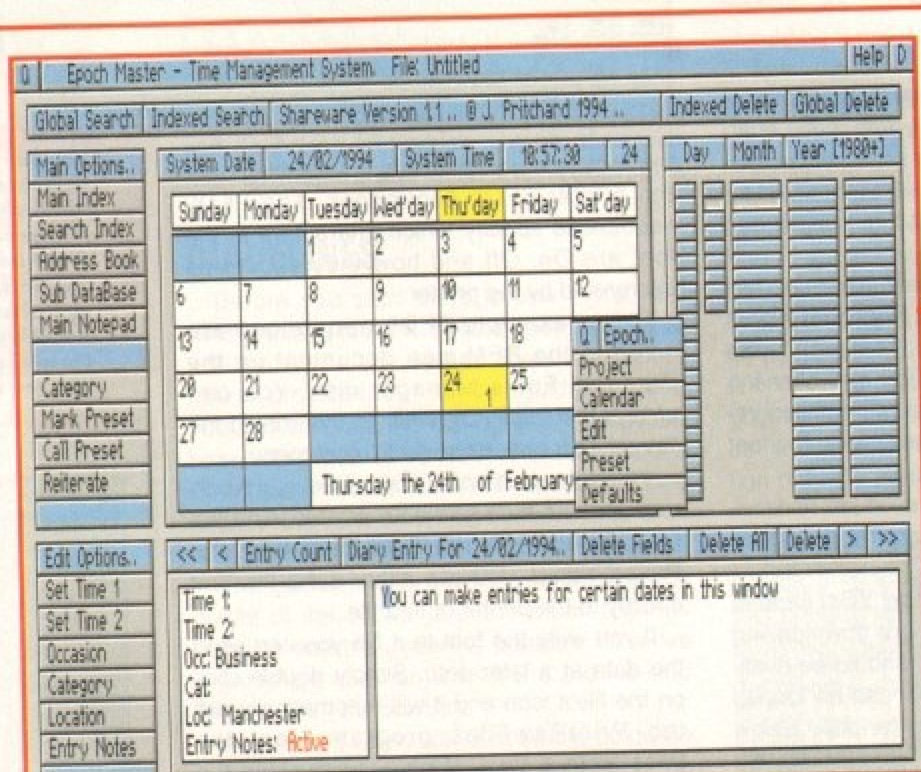
After de-archiving the program and re-booting your Amiga with the Epoch Master disk in drive DF0, simply click on the Epoch Master icon to load the application.

Don't worry too much at the seemingly complex interface because it has been designed with ease-of-use in mind and looks can be deceiving.

When you first boot up you will be presented with the calendar interface. If you have a clock on board the calendar date will be set to this time.

There are four main sections to the calendar: The main window which displays the days of the week with the corresponding date below; to the right, the date selection window which allows you to select any year, month and day within Epoch's range; the calendar diary at the bottom where you can enter specific notes for a specific day; and to the far left, running from top to bottom the main control panel.

Along the top of the screen, just below the title bar are four buttons which make up the diary's main search and delete functions. When you press the right mouse button the main control menu is displayed which allows you to control the program and create new Epoch files. Once Epoch Master has been loaded it looks in the S directory for a file called EpochCal. This is the default file and you can save your own files over this so that it is your calendar that is loaded when Epoch starts.



When Epoch Master boots up you are presented with the calendar screen. From here you can assign diary information to certain dates and save them

SEARCHING

If there is an entry within seven days from the present time, Epoch will tell you and you will have the option of jumping to that date or searching for more entries.

To select a date, simply use the date selection buttons on the right. The buttons indicate the days, months and years. You can select a new range by clicking on the Year button above the year range and typing in a new date.

Set the date manually by clicking on the button next to the System Date button. Enter the date in the form dd/mm/yyyy and hit Return. The calendar will change to reflect your choice. Clicking on System Date will return the calendar to the present date.

Once you have selected a date you can assign information to it in the diary. In order to enter data all you need to do is click in the diary window and type.

You also have a further five fields to the left of the diary window where you can specify a start and finish time, an occasion, a category and a location. If that's not enough you can enter up to 500 lines of

There are a variety of options open to you when Spooler is in a certain state. These are:

Idle

FF ....Sends a FormFeed to the printer

Printing

Halt ....Stop when the current file has been printed

Go ....Continuing printing after being halted

Skip ....Stop printing the current file and move onto the next

Halted

When Spooler is in the Halt mode you can select a new file from the SpoolerList window. Click on the file it becomes selected.

Del ....Removes the selected file from the SpoolerList and deletes it from SPOOL

First ....Places the selected file at the top of the SpoolerList

Last ....Places the selected file at the bottom of the SpoolerList

Clr ....Clears the SpoolerList. No file should be selected

Design Works fix

It appears that there were some problems when printing from Design Works on the January issue of *Amiga Computing*. Fortunately, we have discovered what was wrong and have come up with a solution.

The first thing you should do is boot from your Workbench disk or hard drive and open the Shell (CLI). Type in the following, swapping between the Workbench disk and Design Works disk when necessary;

```
copy devs:printer.device to designworks:devs
copy devs:parallel.device to designworks:devs
```

After booting your Amiga with the Design Works disk click in the Shell window and type in the following:

```
assign PRINTERS: devs:printers
```

You can then load up the program and print without any problems.

THE DISKS



Faulty CoverDisk

If you subscribe to Amiga Computing and your disk does not work, please return it to:

Amiga CoverDisk
Europress Direct
FREEPOST
Ellesmere Port L65 3ED

If you bought your copy from a newsgent and find that your CoverDisk is faulty, please return it to:

PC Wise
Dowlais Top Business Park,
Dowlais Merthyr
CF48 2YY

text in the Entry Notes.

You can search through your calendar using the VCR-style control buttons below the main calendar display. From here you can also delete entries for specific fields within each date.

To save, load or create a new calendar you need to press the right mouse button to bring up the main options menu and select Project. You can quit out of any menus by selecting the Q button in the top-left corner.

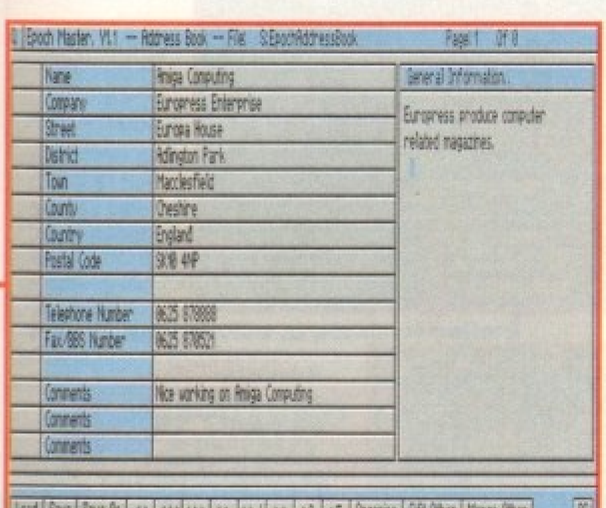
To enter the address and phone book section simply click on the Address Book button to the far left of the calendar screen. You will be presented with the main address and phone book window with the current page number and the total number of pages used at the top of the screen.

The first column in the main display contains the field selectors, the second column the field names and next to these the actual field data windows.

On the right is the General Information window which allows you enter additional information about the present page. Below the main display are a row of buttons which make up the search facilities.

To change the title of a field, click it and type the new name in the requester. Enter data by clicking in the data window and typing in the appropriate information. The same procedure is true for the General Information window.

As with the calendar, the right mouse button brings up the main menu. From here you can load, save or create a new address and phonebook file and perform various search functions. The first column of buttons in the main display are used for cross referencing searches.

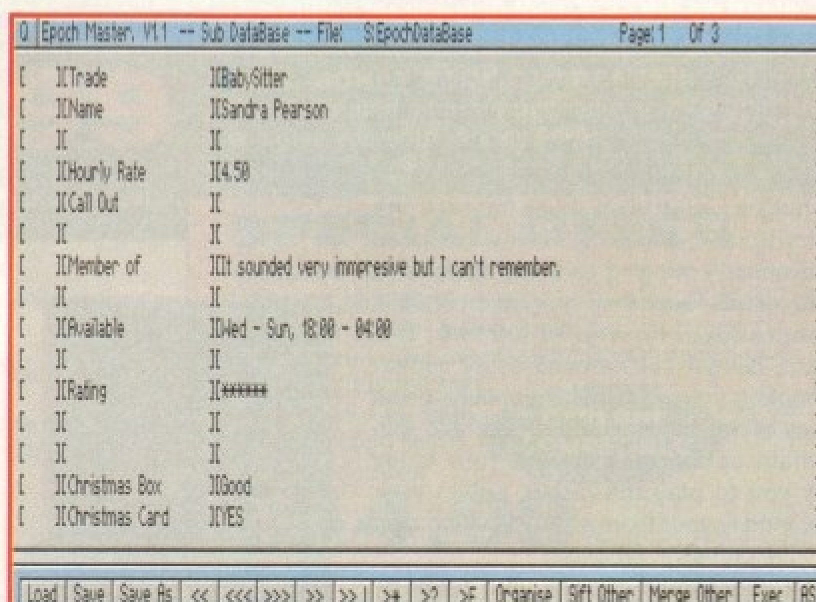


The address and phone book manager is simple to use and very powerful indeed. Now you need never scribble numbers down on paper again

To access the sub-database system you can either select New Sections from the main menu in the address and phone book section or quit back to the calendar and select it from the button on the far-left.

The sub-database system is very similar to the address and phone book in many respects and is used in much the same way. The major difference is that it allows you to assign a DOS command to each page.

To add a DOS command, bring up the main menu by clicking the right mouse button. Select Edit MK II and then Record. Type in the DOS command in the requester and then press return. To execute the DOS command simply click on the Exec button at the far-right of the row of buttons at the bottom of the screen. When the DOS command requester appears just hit return. Provided the command is legal it will be executed.



The sub-database system is very similar to the address and phone book manager but offers more powerful database-specific functions

The search and editing commands used in the sub-database system are identical to those used in the address and phonebook. If you are impressed with Epoch Master, and no doubt you will be, you could always register with the author for just £10 for which you will receive an updated version packed with enhancements and additional functions and facilities.

Read the documentation for more information on how to register.



A hero for the day

Now's your chance to prove yourself in this exclusive demo of Gremlin Graphics' HeroQuest sequel – The Legacy of Sorasil!

The Legacy of Sorasil is a role-playing adventure game in which you take control of a group of hardened warriors. Made up of barbarians, wizards and mages, your team must traverse the land of Sorasil, defeating enemy creatures and eventually bringing peace to the land.

This demo version of the game contains an entire level for you to explore. But beware, danger lurks around every corner! On booting your CoverDisk containing the Legacy of Sorasil you will be presented with the main option screen. The four icons allow you to play the demo, select your team, modify your team's statistics and load and save games in progress.

First you should choose your team by clicking on the icon containing a question mark at which point you will be taken to the character selection screen. You can choose up to four characters although you can play with less if you prefer.

CHOICES

To select a character click on the arrows to flip through the available choices. Each character will appear in the appropriate window. Try and create a varied team made up of fighters and magicians. When you have made your selection click on the down arrow.

From the main options screen click on the icon containing the scales so that you can edit your character's statistics. The character modification screen contains a representation of the character currently being modified, his or her stats represented in bar form and to the left the point allocation candle.

From left to right the bar statistics represent body, combat, perception, strength and mind. By clicking on the icons below each bar you will be able to increase the selected stat by one. You only have five points to allocate represented by the dwindling candle.

You can select other characters by clicking on the left and right arrows. Click on the down arrow to finish. Once you are happy with your team, click on the door icon from the main options screen in order to enter the game.

Before you can control your team you must give them a destination on the map of Sorasil. Your team is indicated by a flag and available locations by a flashing cursor. Click on the cursor and the team will travel to it.

As soon as they have reached their destination you will told of your task and then left to fend for yourself. The playing screen contains everything you will need to play the demo.

To the top-left is the character presently under your control, at the bottom is the option and movement icons and to the top-right is the character's health and magic points.

You can move a character around the play area by clicking in the destination or selecting the appropriate arrow from the movement compass at the bottom of the screen. Movement takes only one point.

Combat is decided in two stages; attack and defence. To engage an enemy in combat you must stand on an adjacent square, click on the sword icon and then on the character you wish to attack. The computer will resolve the combat based on your statistics.

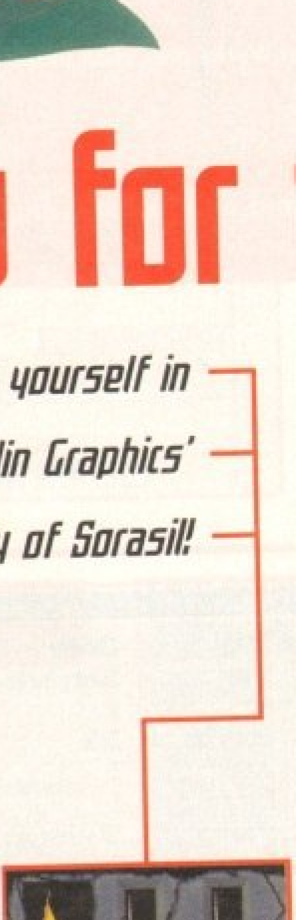
All the characters can use magic potions and a selected few can use spells. To cast a spell or use a potion click on the magic icon which will take you to the magic inventory screen.

Pick up a spell or potion, at which point the cursor turns into a pentacle, and then click on the exit arrow. You can then click on the enemy character you wish to cast the spell on.

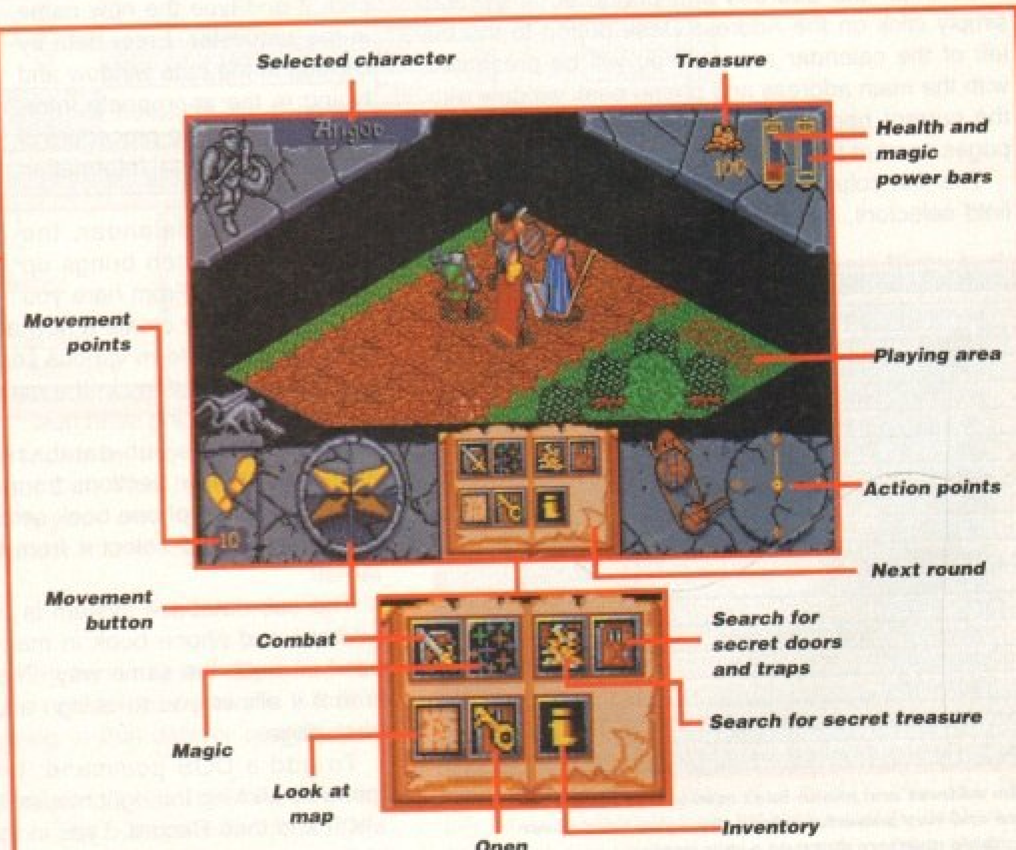
To open doors and look for treasure and traps simply click on the appropriate icon. You will told if you have found treasure or traps and they will be revealed to your team.

Once a character has used all his or her action points click on the page corner of the icon book at the bottom of the screen in order to start a new round with a new character.

If a character is killed you will have the option of sharing out their equipment to the other characters in the party.



Each character in your team can allocate five extra points to their statistics. The candle indicates how many points remain to be spent



THE DISKS



Fantastic fonts!

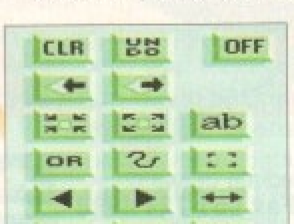
Personal Fonts Maker Only £39.95

You've got the earlier version of Personal Fonts Maker software on this issue's CoverDisk, so now you should upgrade to the very latest full package which includes the manual and Colour Extensions

The Personal Fonts Maker is a powerful tool for designing and processing fonts. Amiga fonts and fonts created with the Personal Fonts Maker can be transferred to the printer memory and printed at maximum quality and speed.

This great program can output fonts in formats which can be read by other Amiga programs, by other computers and also by a vast range of differing printers (even laser printers). It can handle IFF graphics, it is possible, for example, to work on typographical fonts input from a scanning device.

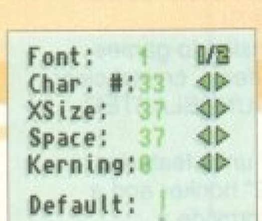
Repetitive transformations on characters or entire fonts can be recorded, stored and executed as macros. A special programming language can be used to define the format in which fonts are to be saved or sent to a printer.



The Personal Fonts Maker package includes a multitude of original fonts and support tools like the Printer Driver Modifier, which allows the user to personalise printer drivers.

It's both easy and fun to work with, thanks to the elegant and intuitive user interface. The manual is full of examples and introductory sections for novice users, and comes complete with technical information for Amiga experts.

Personal Fonts Maker works in black and white. The Colour Extensions disk adds powerful colour font processing capabilities to the basic package. Most of Personal Paint's editing tools have been incorporated into the package. For the first time, it is possible to process fonts in up to 256 colours with no size limit. Among others, special functions for anti-aliasing (even using an Amiga vector font as a point of departure) and right-to-left fonts are provided.



This makes it an ideal companion to video applications, and a must in the titling environment.

So, you have two products, Personal Fonts Maker and Colour Extensions.

(1 Mb RAM, 1 disk drive required;
1 Mb of Chip RAM recommended.)

Send your order to Amiga Computing Personal Fonts Maker Offer, Europress Direct, PO Box 2, Ellesmere Port, South Wirral L65 3EA. Allow 28 days for delivery.

Personal Fonts Maker Order form

Please send me the

☐ *Personal Fonts Maker upgrade at £39.95 including postage and packing (UK)*

● *Overseas readers need to pay an extra £2 towards postage*

Please deliver my goods to:

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Address ____________________

____

Postcode ____________ Daytime phone ____________

I wish to pay by:

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☐ Credit card

Card No. ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

Expiry Date ___ / ___ *Allow 28 days for delivery*

☐ *Tick this box if you do not wish to receive promotional material from other companies*

getting started



The Amiga Computing CoverDisk is designed to be as simple to use as possible. Follow these instructions and you'll be up and running in no time!

De-archiving applications

Workbench 2.0 and above

The de-archiving procedure has been much improved and now combines the power of the official Commodore installer program with that of Workbenches 2.0 and 3.0.

The installer program is designed to be powerful yet simple for the beginner and features a user-friendly interface allowing you to de-archive programs and install utilities with a minimum amount of fuss.

Always boot from your CoverDisk when de-archiving applications and make sure your disk is write-enabled (not write-protected)!

The installer programs can be located via the Install icon with the appropriate name, eg:

```
InstallPFM
```

To run, simply double-click on the icon which will load up the installer program.

Using the installer

Ignore the buttons that appear when the installer program boots up and simply click on the Proceed button. The program will then copy the necessary files to RAM.

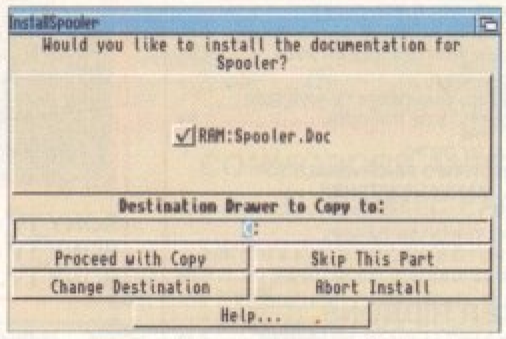
Once this has finished the installer will inform you that it is about to format a disk in DF0. Click on Proceed at which point you will be told to insert a blank disk ready for formatting.

Once you have clicked on Proceed, the installer will indicate that it is formatting the disk in DF0. When this has finished, click on Proceed again to start the de-archiving procedure.

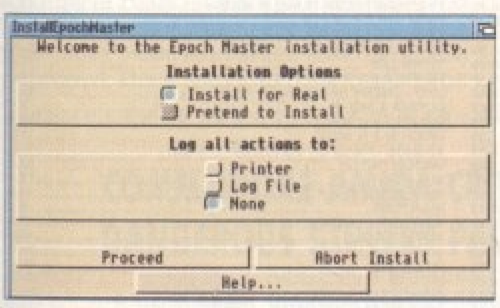
When the application has been de-archived you will be told where the de-archived files are. Click once again on Proceed to finish.

If at any time you are unsure as to whether you want to continue installing you can click on the Abort Install button.

Occasionally, utilities may need to add instructions to your User-Startup file located in the S directory so that they will function correctly. If you want to add the instructions, click on Proceed when prompted.



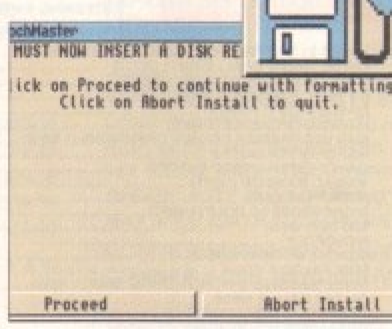
You can easily install documents and create new drawer thanks to installer's user-friendly interface



Don't worry about the installer options. Simply click on the Proceed button



The Workbench 2.0 and 3.0 installer icon



Don't forget to insert a blank disk at the prompt

It is vitally important that the disk you boot your Amiga from is write-enabled (not write-protected) when using the CoverDisks.

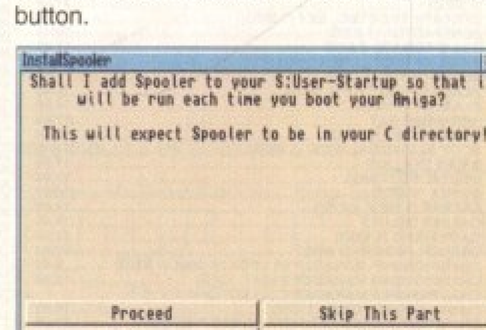
This is due to a bug with the Format command and not an error on the part of *Amiga Computing*.

Installing utilities

The procedure for installing utilities is much the same as installing applications except that you can boot from your hard drive or Workbench disk. As utilities don't need to be de-archived, you are asked to specify a directory on your hard drive or Workbench disk where you would like to install them.

If you don't want to install to the default directory you can change it by clicking on Change Destination. The Show Drives button will allow you to select a new device and directory. You can create a new drawer for your utility to go in by clicking on the Make New Drawer button and typing in the name.

At times you may be asked if you want to install a utility's documentation. A tick box indicates that the documentation is selected for inclusion but you can click on the box to ignore it or simply click on the Skip This Part button.



Adding commands to your User-Startup can be achieved with the press of a button

De-archiving applications - Workbench 1.3

Make sure you boot from your CoverDisk and that it is write-enabled (not write-protected)! The installer programs for Workbench 1.3 users can be located via the icons named:

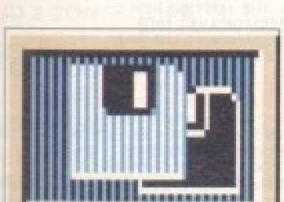
```
Install[program name]_1.3
```

eg:

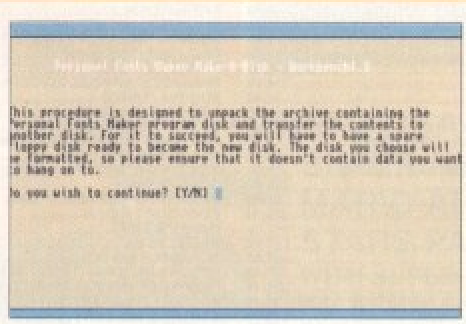
```
InstallPFM_1.3
```

When you load up the 1.3 installer program you will asked if you want to continue. Answer "y" if you want to continue, "n" if you don't.

You will then be asked to insert a disk to be formatted into DF0 and press Return. Once this disk has been formatted successfully the application will be de-archived to the disk.



The Workbench 1.3 installer icon



Answer "y" to continue, insert a blank disk and then sit back and wait

Installing WB 1.3 utilities

Boot your machine with any auto-booting disk (such as your hard drive or Workbench disk) and then insert the CoverDisk.

Utilities can be installed by clicking on their Install icon but you cannot specify their location and any additions to the Startup-Sequence must be done manually.

When installed, the utilities are copied to a drawer called ACUtils on the disk you booted from. If you are installing utilities to your Workbench disk, make sure that you have sufficient space.

PRINTERS FOR AMIGA & ST



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24 PIN, 80 COLUMN, 192 CPS/64LQ, 7 FONTS (1 SCALABLE), EXTREMELY QUIET 43.5 DBA NOISE LEVEL, FREE PRINTER LEAD. 1 YEAR WARRANTY. *FREE WORDWORTH V.2 (AGA) WORD PROCESSOR FOR AMIGA ONLY* (WHILE STOCKS LAST) 189.99



CANON BJ10 SX BUBBLE JET PRINTER
64 NOZZLE, 80 COLUMN, 110LQ CPS 2LQ/3 DRAFT FONT, 1 YEAR WARRANTY, FREE PRINTER LEAD. A SMALL, PORTABLE PRINTER, VERY QUIET IN OPERATION YET GIVING OUTSTANDING PRINT QUALITY. 215.99



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9 PIN, 80 COLUMN, 240CPS/54NLQ, 6NLQ FONTS, 2 YEAR WARRANTY, FREE PRINTER LEAD. A 9 PIN PRINTER WITH COLOUR FACILITY AND FULL PAPER HANDLING FUNCTIONS. 154.99



CITIZEN SWIFT 200C PRINTER + COLOUR KIT
24 PIN, 80 COLUMN, 216CPS/72LQ 6 LQ/1 DRAFT FONT, AUTO SET FACILITY, INPUT DATA BUFFER, AUTO PAPER LOADING, ENVELOPE PRINTING, 2 YEAR WARRANTY. FREE PRINTER LEAD. 189.99



CITIZEN 240C PRINTER + COLOUR KIT
24 PIN, 80 COLUMN, 240CPS/80LQ, 9LQ/1 DRAFT FONT, 2 YEAR WARRANTY, FREE PRINTER LEAD. ADVANCED VERSION OF 24E WITH AUTOSET FEATURE AND LCD CONTROL PANEL 229.99

LEADS & ACCESSORIES

ACCESSORIES

CANON AUTO CUT SHEET FEEDER FOR BJ-10EX OR BJ-10SX (50 SHEET CAPACITY) PRINTER. ALLOWS AUTOMATIC FEEDING OF 50 SHEETS OF PAPER INTO CANON BJ10-EX AND BJ10SX.	54.99
CITIZEN PRINTER DRIVER KIT FOR AMIGA. SUITS ALL WORKBENCH VERSIONS FROM 1.3 TO 3.0 ENHANCES PRINT QUALITY FROM CITIZEN SWIFT PRINTERS. GIVES OUTSTANDING RESULTS	12.99
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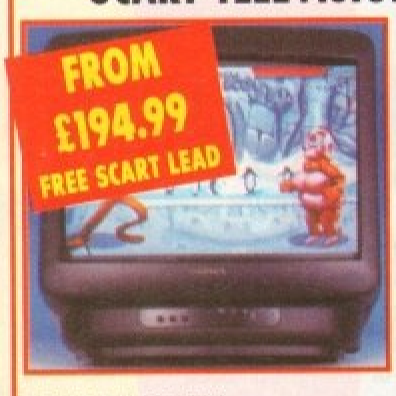
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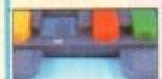
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Brave new world

Despite the recession, intense competition, and Commodore's financial woes, the Amiga is still Britain's most popular home computer by a long way. Stevie Kennedy looks at where the Amiga can go from here and how Commodore are fighting back from the brink



Twelve months of determined gloom on the part of many in the Amiga industry, coupled to a deep recession and Commodore's recent financial crisis, may have led some of our readers to believe that the Amiga's future is nothing but bleak.

The facts as we see them today paint a very different picture. The success of the A1200, and CD32's capture of the biggest slice of the fledgling CD-ROM market, look set to give Commodore a stable base from which to develop the Amiga into the late 90s.

"Where do we go from here?" is still the most pressing question on most users' lips, however, and in an attempt to gauge the mood and direction of the industry we set out to ask a number of industry insiders to give us their view of the Amiga and its future.

The first and most cheering impression is the high degree of optimism present among those who make their living from the machine. Despite the short-sighted view taken by some US companies, many of whom have never appreciated the importance of the European market, most UK firms we approached had adopted a positive outlook.

Recent figures showing the Amiga as a strong front-runner in the games market have helped boost things further, and general confidence seems to be on an upward trend.

Meridian Distribution

Now Britain's biggest importer of Amiga software, Meridian Distribution sell almost everything from basic paint programs to high-end music and graphics packages, and are therefore in a good position to cast a weather eye over the market as a whole.

I spoke to Meridian's Rue Stanley, whose disposition remains staunchly cheerful at all times, and asked her how things were compared to the good old A500 boom days.

Compared to the boom period of the A500's heyday, how healthy would you say today's market is?
The Amiga market is very healthy. In fact, in the years that we have been selling software our business has doubled.

In which areas do you feel that the Amiga is currently strongest and weakest?
I consider the main strengths of the Amiga to be in the video market for titling, animation, home office use, DTP, and so on. Networking and business applications are the least exploited areas.

How confident do you feel about the market for the next two years?
I am very confident about the Amiga and I'm looking forward to introducing many new products.



With excellent products like PageStream 3.0 on the way, Meridian are happy with Amiga productivity development

Can you provide a rough guide to the rise and fall in sales since 1990, and which types of hardware and software have fared well or badly?
The software products that have fared particularly well are graphics packages, word processors, DTP, animation, and programming tools.

How well would you say the new Amigas are doing? Do you look forward to the AAA machines, and is new technology strengthening the market or confusing it?
I think that the new Amigas are doing very well, and we are looking forward to the new machines. I believe that technology strengthens the market and gives it a chance to grow.

What can Commodore do to improve your confidence in the Amiga?
They need to shout louder about how great they are. Multimedia is the latest buzzword in the PC market. The Amiga has had brilliant multimedia capabilities for years, but general awareness of this is still too low in the computer market place.

Amiga Centre Scotland

Martin Lowe and ACS have for years been involved at the high-end of the Amiga market in broadcast TV and video, developing the Harlequin 32-bit card for that purpose and distributing a range of graphics packages, video add-ons, and other professional products.

As a specialist organisation servicing what for the Amiga is still a relatively small market ACS have therefore felt more frustration than most at Commodore's lack of marketing momentum.

I asked the same questions as those I put to Rue Stanley, and his answers offer an interesting contrast to the view from the middle of the market.

Compared to the boom period





TVPaint on the ACS Harlequin board has been one of the mainstays of the high end Amiga for two years

From the horse's mouth

The days when approaching Commodore executives and asking them for information was akin to a frontal assault on a machine gun nest are well and truly over, and in today's more enlightened atmosphere it seems that you only have to phone and say hello to be buried in facts and figures.

Commodore (UK) boss David Pleasance has been one of the most open and informative executives since taking over the home computer world's equivalent of the England football managership, and on the subject of the Amiga's future he can be refreshingly forthcoming.

I asked him a range of questions on this and on the state of the market in general, and touched on the painful subject of past mistakes. His answers reflect the growing mood of confidence that the Amiga, having survived a world recession and a few bad patches of its own, is still the number one home computer in Europe.

MISTAKES

Starting with past marketing initiatives and the relative failure of the Amiga in some productivity areas, David admitted that Commodore had made mistakes.

"We have never successfully segregated the Amiga range, and the high-end machines have struggled to shrug off the image that the Amiga is a glorified toy – we were marketing the product entirely wrongly," he told me.

"I believe we are on the verge of successfully doing that for the first time. Macs and PCs have always offered a complete solution for £6,000 or £7,000 including the extra hardware, whereas we have sold the Amiga 4000 as a standalone product at £2,000.

"The purpose of the A.C.E. initiative (see panel) is to gather all our third-party hardware and software expertise under one umbrella for the first time.

"As we start marketing this concept we should be taken much more seriously. We will have five or six A.C.E. centres within three months, which is part of a master plan we've been working on for some time."

With the high-end and future developments in mind, I asked David when the AAA chip set would be available and what the next range of Amigas would look like. There have, for instance, been rumours that AAA was being dropped.

"Absolutely not. AAA is integral to our future. We lost a couple of good engineers which set us back a bit, but the first AAA machine should now be released in the Spring of 1995."

And are Commodore still taking the Risc route?

"Yes. We are taking a Risc core and adding a 3D



David Pleasance's reign as Commodore MD has seen a huge improvement in the company's approach to marketing



of the A500's heyday, how healthy would you say today's market is?
Rather precarious.

In which areas do you feel that the Amiga is currently strongest and weakest?
It is strongest in games and the home computer area, but weakest in professional broadcast videographics, and commercial and educational multimedia.

How confident do you feel about the market for the next two years?
Not very, unless Commodore is radically changed.

In which directions do you predict that the market will move?
Towards the total integration of TV, video, audio, and computers.

Can you provide a rough guide to the rise and fall in sales since 1990, and which types of hardware and software have fared well or badly?
We're only involved in the area of graphics and video, but this has done reasonably well despite lack of interest and support from Commodore UK.

How well would you say the new Amigas are doing? Do you look forward to the AAA machines, and is new technology strengthening the market or confusing it?
The A4000 is a great machine technically, but crippled by a marketing and pricing policy which means no professional dealer would touch it with a barge-pole.

Again, the technology of the AAA chips is very exciting, but Commodore engineering don't have the resources to develop it properly. New technology is essential for the survival of the Amiga.

What can Commodore do to improve your confidence in the Amiga?
Commodore UK needs strategic thinking and planning rather than quarterly sales targets. It needs marketing expertise covering both the professional and the consumer markets; to recruit a base of professional dealers; to support proven quality products and dealers rather than hare-brained schemes and vapourware; to encourage third party developers; to price the Amiga sensibly; and to tell the public, dealers, and developers what they are doing.

> There's a 'feel good' factor in the air which was absent before the A1200s launch



Commodore's 64-bit Risc processor should be at least as powerful as the 66MHz Motorola PowerPC chip

rendering engine surrounded by the AAA chip set. This allows complete compatibility with Windows NT and the existing Amiga."

Will you be using the Motorola PowerPC chip?

"No. We are developing our own chip in allegiance with a couple of well-known companies (David refused to be drawn on their exact identities) and we should have a high-end graphics workstation which is far ahead of the present A4000 in terms of power."

So what about the home market and the machines on which Commodore is building its future? Was he happy with the sales of A1200 and CD32 machines?

"We're extremely happy with the A1200, which has surpassed all our expectations despite the fact that we've never advertised it. With the low price and the bundles we've produced, it is selling all year round rather than just at Christmas.

"CD32 is disappointing because the console market has been down on predictions. Sega and others are about 40 per cent down as far as we can tell, but we're encouraged that we have the lion's share of the CD market (44 per cent according to Gallup). Basically, we've proven the cynics wrong."

And you're confident that you can retain your market share?

"We're in pole position for an excellent Christmas. 3DO has been an absolute flop in the States, and Jaguar is seeing a low level of support because developers aren't keen on a new cartridge-based system, so our only real competitor is CD-i."

This reflects the comforting thought that the Amiga has already proved itself a tough street fighter by pushing the ST into an early grave and leaving no room for the ill-fated Falcon, so with the PC still a more expensive option there is precious little other competition.

So long as there is a market for a quality inexpensive home computer, the Amiga should sell well. But exactly how well is it selling?

"We're not releasing exact figures because we want to keep our marketing information to ourselves for the time being," David replied guardedly, "but I can tell you we have 98 per cent of the home computer market under the £500 mark. The March 1994 *Which?* magazine votes the A1200 best all-round home computer in that price band."

And will the A1200 continue in its present form or will we see upgrades?

"Probably the biggest mistake we made was the quick jump from A500 to A500 Plus then A600, which confused a lot of people. We won't be doing that again, but developments from the new high-end Amigas will migrate downwards to the home machines over time. Any new machine with better specifications will be priced above the A1200."

A.C.E. in the hole

The Amiga Centre of Excellence initiative, Commodore's latest attempt to promote the Amiga as a serious tool, is possibly their only concerted effort so far to bring together the best third-party software and hardware together under one umbrella and give the Amiga a chance to show itself off at its best.

In the past, prospective end users have had to rely on magazines for second-hand information, or computer shows for brief first-hand glimpses of equipment which is usually scattered across several stands in a large hall.

The first A.C.E. site to get off the ground is based in Pentrefoelas, north Wales, and should hopefully be followed by several others over the next few months.

Situated in a large renovated stable block, part of an award winning village regeneration project, the centre offers a stark technological contrast to the surrounding Welsh countryside.

I put it to Peter Simunovic, the centre's Croatian-born managing director, that he was a little off the beaten track.

"Not at all. Because of the M56 and A55, we're less than two hours from Manchester airport, which is the same time it takes to get from Gatwick or Heathrow to the centre of London. We don't have many traffic jams around here."

And did he predict success in luring clients out of London into the wilds of Clywd?

"Certainly. I completed a major multimedia project with the North Wales Tourist Board before we opened here, and we're talking to other Welsh organisations and the Scottish Tourist Board.

What A.C.E. also offers, I soon discovered, is a wealth of the best Amiga hardware and software around. A4000s and A3000s packed with everything from the new Mo-Miga 1.2 gigabyte optical drive, to VLab digitisers and GVP IV24 cards bedecked the main demo room as interested locals watched the cream of Amiga equipment put through its paces.



Bill Owen (left) and Peter Simunovic, at the launch of the first Amiga Centre of Excellence

Probably the most heartening aspect of this sort of collection is that there was hardly a question one could imagine remaining unanswered by at least one of the expanded Amigas being displayed.

One person walked home with a colour print of herself thanks to a Sony camcorder, VLab, and the Primera printer, while others explored the London underground system using Mick Tinker's superb CD32-based touchscreen information program. As the A.C.E. programme gathers steam, and further centres open in other areas of the country, we should see a general improvement in the Amiga's productivity image.

Power Computing

Bedford-based Power Computing have been working in the Amiga market for over five years, developing their own range of hard drive, RAM, and scanner peripherals, and distributing a range of productivity add-ons covering everything from the low end of the spectrum to expensive A4 flatbed scanners and laser printers.

They are smack bang in the middle of the market and in an ideal position to judge the way in which the Amiga is developing, so I asked Power's *capo di capi*, Tony Ianiri, not generally known for his reticence, to answer the same seven questions put to Martin Lowe and Rue Stanley.

Compared to the boom period of the A500's heyday, how healthy would you say today's market is?
Very healthy. The release of the A1200/4000 poured new life into the Amiga and it hasn't looked back since.

In which areas do you feel that the Amiga is currently strongest and weakest?
The problem is that very few people take it seriously. Commodore are now actively trying to enhance the Amiga's reputation and push it further into the serious market. The games image is left over from A500 days and is very difficult to shake off.

The strongest area has to be graphics and video applications. Where else can you get a full 24-bit card for less than £300? Multimedia packages such as Scala are virtually unequalled, Mpeg boards are now available, and FMV on the CD32 gives incredible scope for software.



One of Power's high end products, the 128Mb optical drive

How confident do you feel about the market for the next two years?
Confidence at Power has never been higher. We will continue to develop for the Amiga, and the release of the AAA Risc-based, NT-compatible machines next year gives plenty of scope for the next few years. Also, Commodore are restructuring and David Pleasance is doing an excellent job.

In which directions do you predict that the market will move?
We believe the games market will move towards your massive graphics adventure game that oozes realism. The professional side of the market will move even further towards graphics and video applications.

Can you provide a rough guide to the rise and fall in sales since 1990, and which types of hardware and software have fared well or badly?
We've always had steady sales and still sell as much now as in the A500 boom days.

How well would you say the new Amigas are doing? Do you look forward to the AAA machines, and is new technology strengthening the market or confusing it?
The A1200 is a success story. For your money you get a fantastic all-round machine, and the A4000, though too expensive for most pockets, is a mean machine.

CD32 is selling well, even with the lack of any real CD games (most are just updated A1200 games), and the launch of FMV opens up new avenues for pop music and videos. Any new technology such as AAA will certainly strengthen the Amiga's position.

What can Commodore do to improve your confidence in the Amiga?
Had you asked this question six months ago, I would have said "take the Amiga seriously", but now I'm pleased to say that Commodore are actively pushing the Amiga into the serious market place and concentrating on multimedia where the Amiga excels.

Premier Vision

Andy Bishop and Andy Gould are the men behind Premier Vision, a company specialising in multimedia, music, and graphics applications, selling projects to companies such as Granada Television and British Gas.

Recently, however, the two Andies decided to make their own move alongside the A.C.E. initiative to give the Amiga a boost in the serious market. The result was the first of a series of regular seminars, held at King's College, London, on March 14, which was attended by leading developers in the Amiga industry and a gaggle of interested video experts from, among others, the BBC and ITV.

They were treated to a display of high-end Amiga video and multimedia technology including Hellfrich International's new



Andy Bishop of Premier Vision, promoting the Amiga for all its worth

> We have struggled to shrug of the image that the Amiga is a glorified toy - we were marketing the product entirely wrongly
>
> *David Pleasance, MD, CBM (UK)*





Peggy Plus Mpeg card and a new Jpeg digital video card, DPS's stunning Personal Animation Recorder, the Mo-Miga 1.2Gb (yes, gigabyte) optical drive, Sunrize's AD516 sound card, Bars & Pipes Professional, Zen technology's broadcast-standard character generator, and Scala MM300.

The effect was impressive, and the movement towards this sort of non-partisan seminar approach, where products are allowed to speak eloquently for themselves before a live audience, should see a great improvement in the Amiga's high-end profile. Judging from the many searching questions asked by the video professionals in the crowd, interest levels were certainly high enough to hail the idea as a great success.

As Mr Bishop put it: "If we don't do this sort of thing, who will?"

Conclusion

As the Amiga still holds 50 per cent of the games market, and has a headstart in CD-ROM with CD32, the machine's leisure talents seem set to carry on delighting new owners for some time to come.

Worries over the US and European markets aside, the Amiga has a firm hold in the UK, and Commodore's better late than never awakening towards promoting the Amiga in video and multimedia should reap some sort of reward sooner or later.

IMPROVEMENT

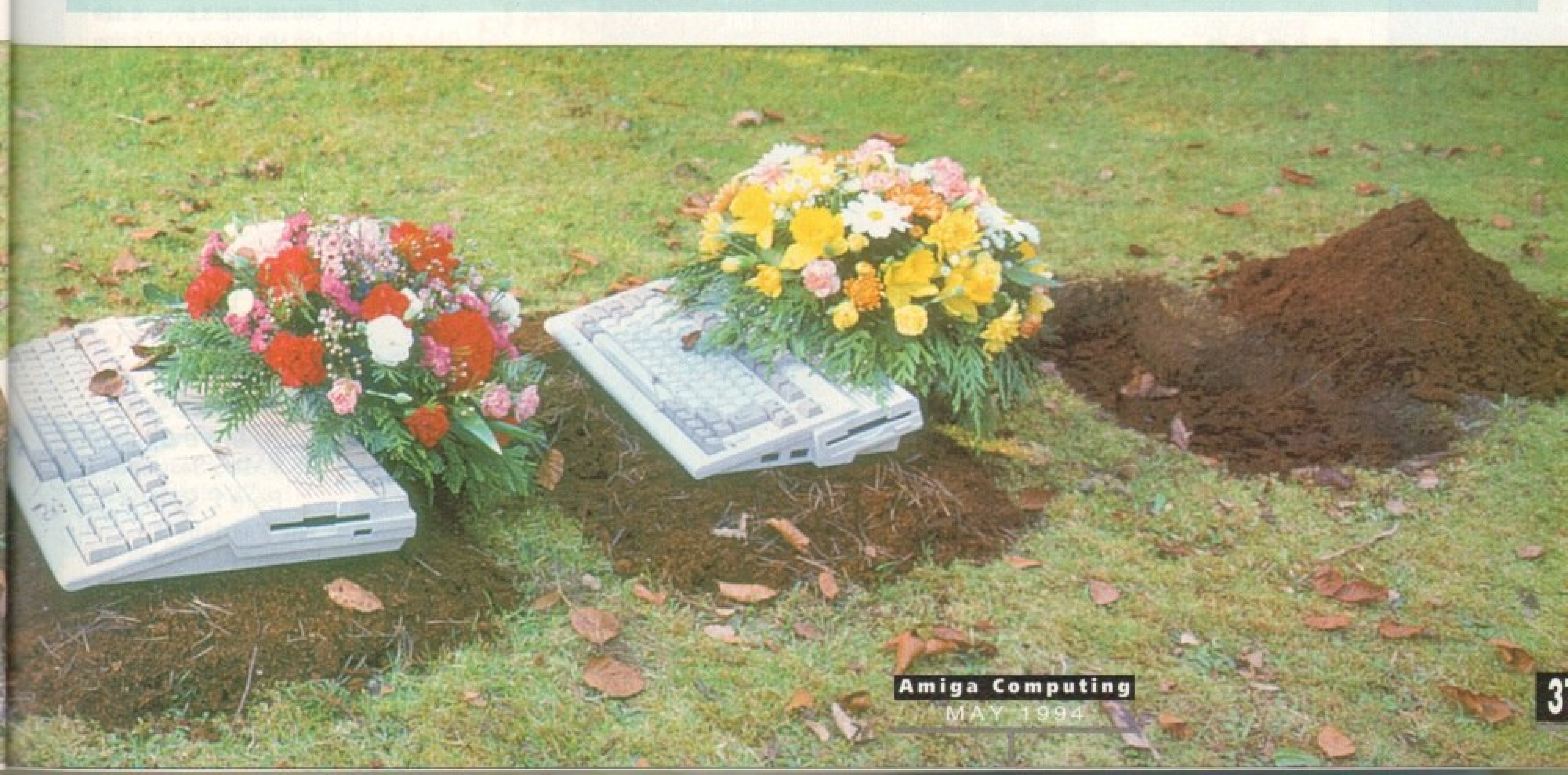
It is too soon to say whether Commodore's long neglect of the machine's high-end potential has caused too much damage for A.C.E. or companies such as Premier Vision to overcome, but since the Commodore PC range was dropped and the Amiga concentrated on as the company's only hope of survival, we have seen a huge improvement in both effort and attitude.

Christmas 1994 will be the testing time. If CD32 scores a big success as Commodore predict, and the A1200 continues to sell strongly, neither of which seem unreasonable hopes, Commodore UK at least should finish the year on much firmer ground than they started it.

However, further efforts in marketing and promotion are required to make up the ground lost during the A500 boom when a blinkered management sat back on what proved to be mercurial laurels.



The CD32 and A1200 have captured the imagination of thousands of new young Amiga owners



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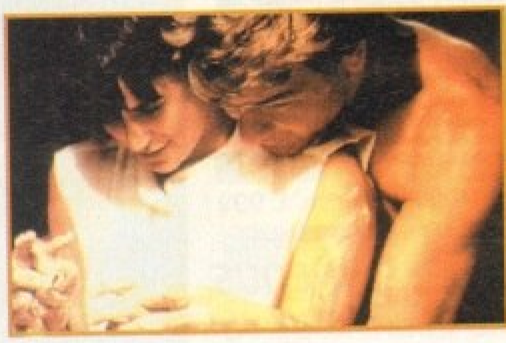
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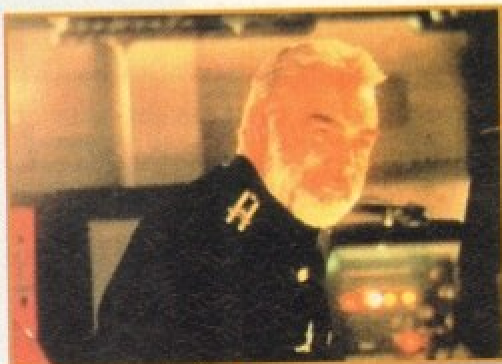
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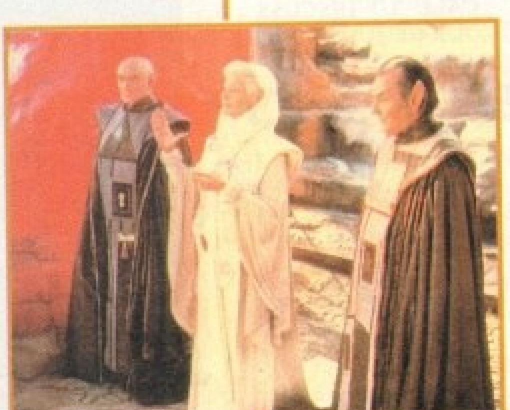
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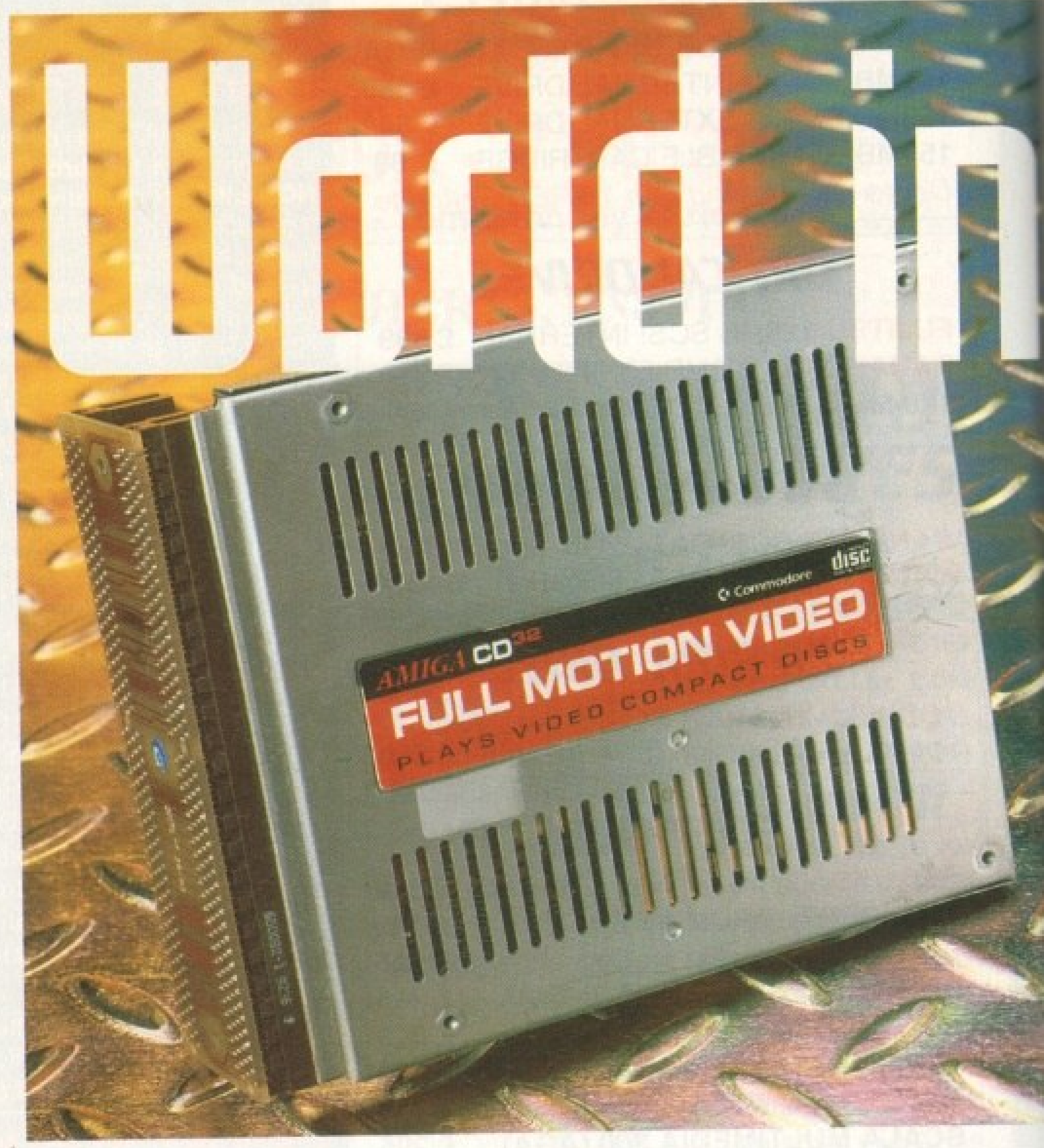
FMV could herald a whole new age in audio-visual home entertainment











As technology shifts towards the CD, Simon Clays fast forwards to a future where we could be using little shiny discs for everything from games to movies and music

Recently there's been a great deal of confusion at the very mention of FMV. At first it sounds like a hype method to kick-start the sales of CD driven consoles, but on closer examination it could to prove one of the most important innovations for a long while.

Many of you will remember the battle of the video formats at the turn of the 80s, a war that saw young systems like Betamax and Philips 2000 go to early celluloid graves.

Not wishing to repeat such corporate genocide, many of the leading lights of the electrical world have come together to agree a standard format to which they can all comply.

Although Philips were the first company to produce a commercially available system, they too have adjusted their machines to comply with this new standard.

This means that whether you're using a CD32, CDi, 3D0 or a PC with a CD-ROM drive you'll be able to enjoy any Video CD title.

However, it should be noted that the Video CD standard only applies to linear non-interactive software. Games software will still remain exclusive to the system it was for.

Technics have already unveiled three prototype Video CD players at the Consumer Electronics Show held in Las Vegas last January: a mini system with a built-in player,

Since Commodore released its Full Motion Video cartridge, a new world of opportunities has opened up. Digital technology has spawned completely revolutionary forms of entertainment.

Hollywood has just opened its eyes to its new toy and many of the major studios are becoming actively involved in interactive movies.

Now, movie tie-ins really are becoming movie tie-ins. Not only are games including footage from movies, but actors are actually filming extra footage for specific inclusion in games.

Sylvester Stallone has already been filmed against a blue screen for Virgin's conversion of *Demolition Man.*

Lawnmower Man 2 is being developed simultaneously with the computer game licence and incorporates some of the comput-

motion

a portable player with a flip-up LCD screen and a five-disc multi-player.

As a response to these activities the music industry have announced that they will be adopting the system. Picture Music International (part of EMI) have announced their first batch of releases.

The straight reissues are Queen's Box of Flix (three discs); David Bowie's The Video collection; and Pink Floyd's Delicate Sound of Thunder.

Updated titles will see Tina Turner, Iron Maiden and the Pet Shop Boys all undergoing some minor surgery (not before time) before going on sale.

BMG, who fall under RCA's massive corporate umbrella, also plan to release a number of titles. Although Eurythmics is the only confirmed release, at least another three are promised.

Meanwhile, CD32-compatible products from Philips are reaching the shops. Priced at around £16, their current releases include the movies *Patriot Games, Black Rain, Top Gun, Star Trek VI, Naked Gun 2½,* with *Ghost, Fatal Attraction* and *Hunt for Red October* in line for an April release date.

With a million systems expected to be in the home by the end of 1994, even computer software houses are keen to get into the act. It's rumoured that at least 14 of the Manga titles have been signed up, including *Akira, Fist of the Northstar* and the *Dominion* series.

While things are being kept tightly under wraps, an industry insider had this to say:

"We think that the format will attract new users, and one way of attracting them to buying an FMV module for their CD32's is by releasing a range of animated films."

BMG and PMI's Video CD's music titles are being produced by Omnimedia, a company who are more just a little familiar with CD-driven multimedia software.

Not only have they been responsible for British Airways interactive CD training manual, but are now gearing themselves towards releasing titles of their own.

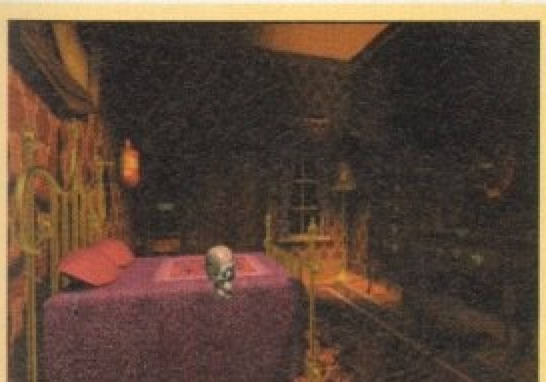
First off the production line will be an interactive novel for children. *Treasure Hunt*, by A J Wood, contains many different aspects of FMV technology. Omnimedia's Artistic Director, Yvonne Cavalier, revealed more:

" Treasure Hunt's an interactive book, it's a bit of everything. It'll use a blend of traditional animation in conjunction with original illustrations.

"You basically follow a fairly linear storyline, until you reach a still screen. This will ask you to solve some puzzles which will help reveal the location of the treasure."

A sequel, which works on the same premise, has already started production, and another educational disc called Toy Shop based on the National Curriculum is due for release priced at around the £25.

Interactive software



Seventh Guest

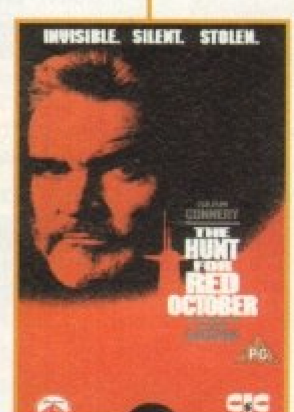
er-generated VR film. However, American companies Media Vision and Hyperbole Studies have taken a joint decision to push the cinema doors a little further open with virtual Cinema.

"The synthesis of the film and the novel", Virtual Cinema is a software engine which places the user in a 360 degree environment with access to the personal thoughts of the characters involved. Using live actors, this interactive software asks you to explore a 3D world, interact on a social level with the characters, and study their personalities and thoughts. The first interactive movie for a home machine will be the Hitchcockian thriller *Voyeur* on the Philips CDi. Starring Robert Culp and Grace Zabriskie, Voyeur gives 65 minutes of live action footage using some 47,000 frames of broadcast quality video.

Some of the biggest names in the movie industry are becoming excited at the potential FMV gives. Syd Mead of *Blade Runner* fame is working on a title called *Cyberrace*, and even Steven Spielberg is now involved on a project called *The Dig*.

Virgin will have the first games to utilise FMV to the full. 7th Guest thrilled PC owners with its graphics long before live footage was added for the up and coming CDi version, and Conspiracy will see Donald Sutherland make his debut in the silicon cinema.

At present, product available for the CD32 is very scarce. But, with the attention the music and movie industries are taking in the 12cm disc, it's quite obvious that CD technology with its massive storage capabilities, isn't a passing phase and is indeed the next celluloid step forward.



Invisible. Silent. Stolen. And out on FMV

What is FMV?

Full Motion Video is made possible through the miracle of Mpeg (Moving Picture Expert's Group). This acronym threw together experts from every industry who felt the desire to create a video reduction system.

The committee was over 200 strong and took just 18 months to devise an internationally agreed standard.

The beauty of digital video is that it manages to turn film into a digital signal, while throwing away 99 per cent of that signal and still producing a picture quality that can rival the best VHS can ever achieve.

When you process film into digital video, you transfer the image into a torrent of electronic computer bits (ones and zeros) that cascade out at a rate of 160 million a second.

To transfer this information to CD means vastly reducing the amount of bits that the system processes down to a more manageable 1.2 million per second – the rate that CD reads digital audio.

However, Mpeg isn't just one process. It is in fact several techniques strung together which acheives the enormous 99 per cent reduction.

The first act is to transfer each frame of the film onto a broadcast-quality Digital Video Recorder, to do this means running the film through a special projector with a built-in camera.

Now in tape form, the information is fed into the Mpeg encoder which is an extremely high powered computer equipped with some extra image grabbing hardware. The computer firstly shrinks the images from broadcast quality down to a more basic quality, somewhere around S-VHS level. This reduces the bulk of the code (around 80 per cent) but still leaves you with an image that looks good on a TV.

REPLICATED

Next the computer images are processed into two entirely different ways. First each picture is looked at as though it were a single image, then each is broken down into a pixel image.

It's at this point that the Mpeg system really begins to come into its own. Normally a computer would write down the position of every dot in each still, Mpeg looks at the differences between pixels and removes replicated pixels.

For example, if a frame contains a picture of a red car, and part of that red car consists of exactly the same pixels. Then the system recognises that they are the same and only needs to keep one copy of this.

On a greater scale, the same technique can be implemented on a frame-by-frame basis. The system is geared to compare areas within frames and recognise repeated pixels.

Mpeg works meticulously until there is high detail and a great deal of rapid movement. This is where the film companies have had to compromise and learn to hide errors.

For instance, when the first clips of *Top Gun* were released they were pretty appalling. Now, the film companies seem to be getting the hang of it, and the production quality exceeds VHS and is moving towards LaserDisc standards.

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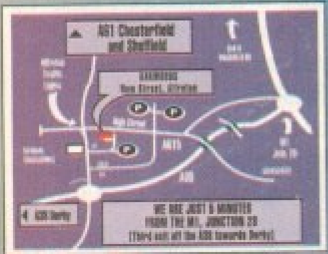
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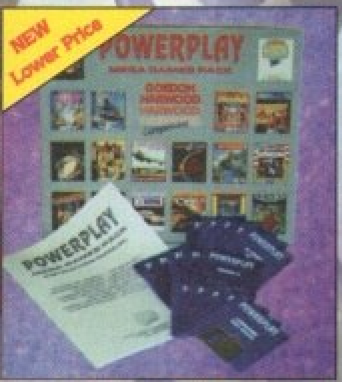
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All the above tests were performed using SysInfo Version 3.18

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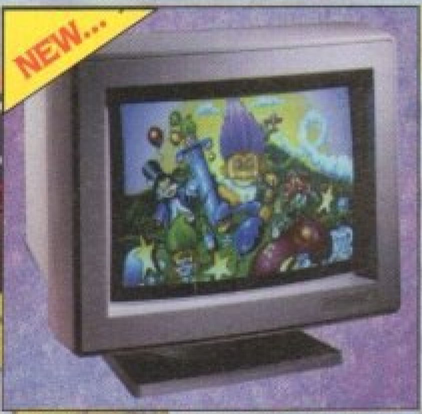
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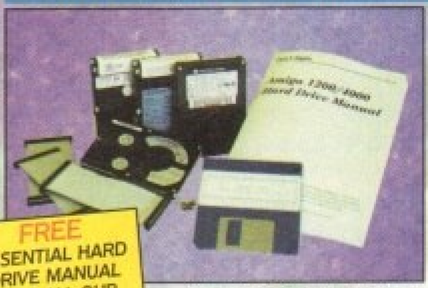
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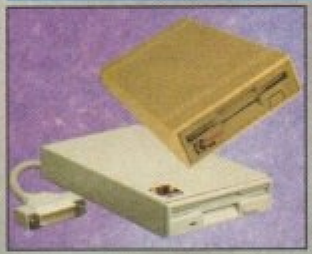
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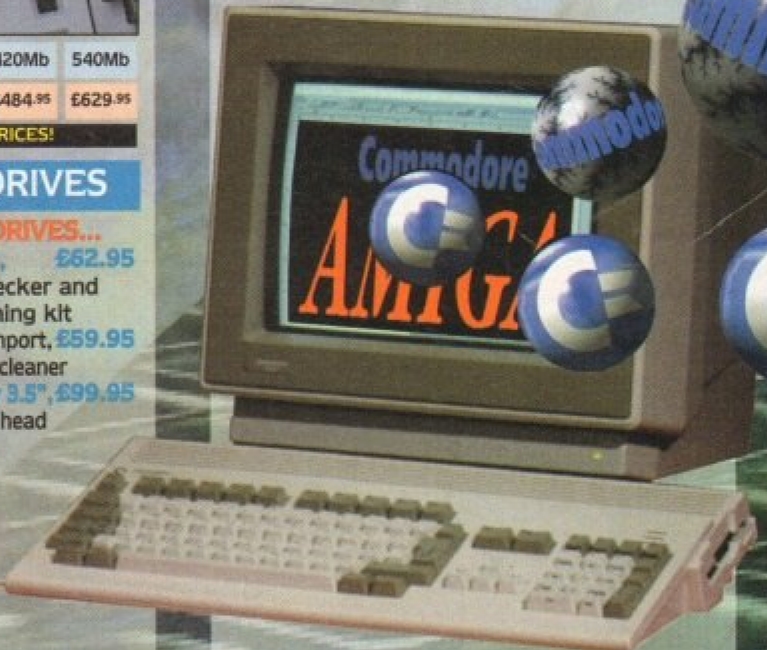
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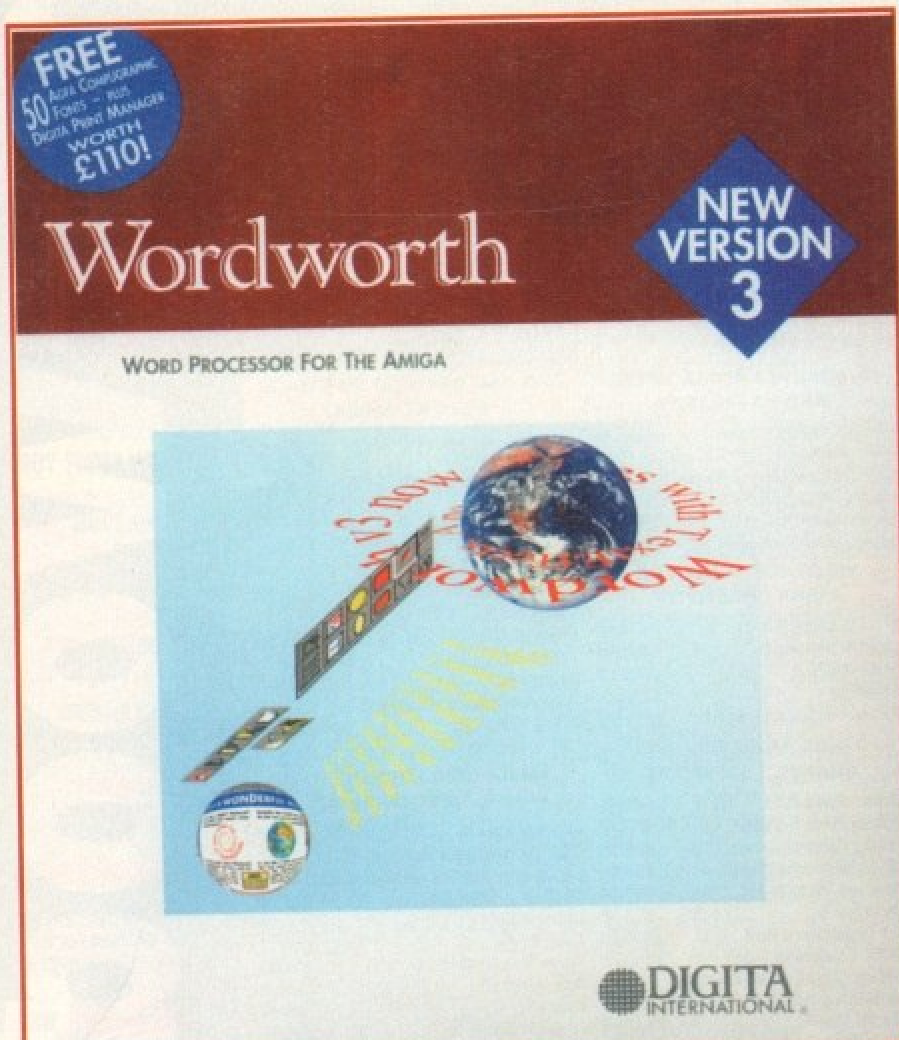
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A word

Since the release of Wordworth 2, the Amiga word processor market has been moving forward at a fair old pace, and competition from Softwood's Final Copy and Final Writer packages has made the tussle for top spot an entertaining spectator sport.

In response to Final Writer, version two of which we'll be examining next month, Digita have come up with Wordworth 3 and a host of new design and layout features.

Always quite strong on the pure word-crunching front, Wordworth has in the past suffered by comparison to Softwood's packages in the design and graphics fronts.

Lack of integral drawing functions and a general sluggishness when handling any graphics containing more than 16 colours severely restricted the program's use as a DTP or layout tool, and most of the new features found in v3 have been targeted at this weakness.

As a package, the new box contains a bonus set of official Agfa Intellifonts, 50 in all, and Digita's version of Wolf Faust's Print Manager program, which you may remember seeing in its shareware clothes on a recent *AC* CoverDisk.

This easy-to-use print spooler coupled to a respectable list of high quality fonts makes for a solid and useful freebie, and compares well to the extras offered by other packages.

The program uses Commodore's installer and continues to offer floppy disk installation, though using such a complex package from floppies could lead to marital breakdowns or worse. As an aid to those stuck with floppies or who have precious little hard drive space, minimum and custom configurations are also offered.

Custom installation is the most useful of the two, and allows the user to specify which loader and saver modules will be installed. For example, if you had no plans to use the TrueType font format, a mainly Mac and PC format which Wordworth 3 now supports, you needn't install the filter which enables the program to read these fonts.

> "As a bonus, those with colour output in mind can have the text start in one colour and gradually change to another for a gradient effect"

MODULES

By carefully selecting which document, font, and graphic import modules to install, it is possible to save quite a bit of space, though minimum installation is probably still best for those restricted to floppy drives.

If fully installed, be prepared to see Wordworth 3 gobble up about 3Mb of hard drive space, and another 4Mb if all 50 Intellifonts are copied to hard drive.

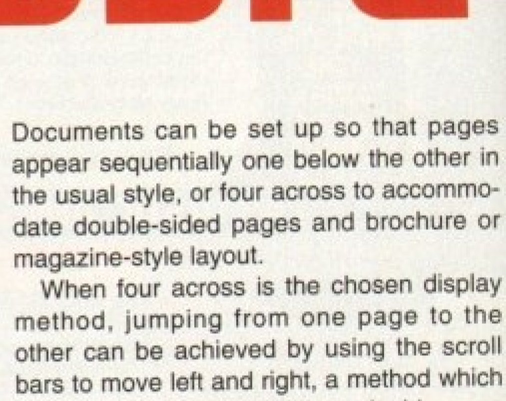
Once installed and the program has been serialised, one's first sight of the new screen layout can come with a hint of *déjà vu*, so similar does it appear to Final Writer.

A bank of colourful and very neatly drawn buttons down the left-hand side of the screen and the new ruler with tools for font, justification, and text styles gives Wordworth 3 a very snazzy modern look.

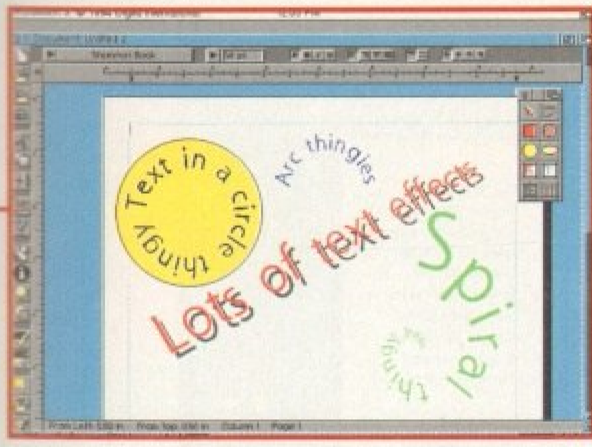
Pages are represented, complete with drop shadow, as sheets on a larger desktop, across which the user can scroll if a document has more than one page. Documents can be set up so that pages appear sequentially one below the other in the usual style, or four across to accommodate double-sided pages and brochure or magazine-style layout.

When four across is the chosen display method, jumping from one page to the other can be achieved by using the scroll bars to move left and right, a method which is very useful when editing a double page spread, though not nearly as useful as the excellent variable zoom.

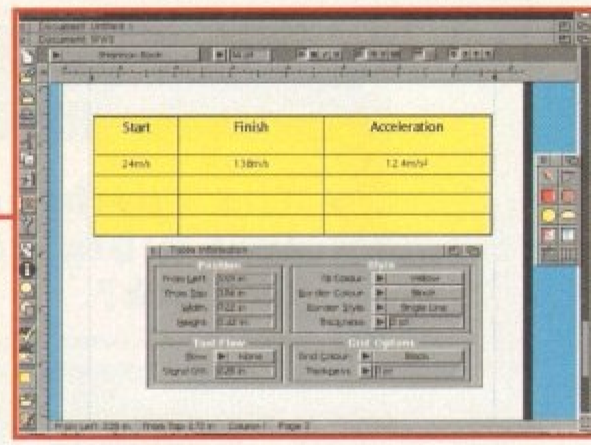
This new feature offers a number of viewing magnifications, from 25 to 400 per cent, with every setting in between at the user's discretion. In other words, no matter which font, screen mode, or page size is used, there is always a view magnification which fits the document being edited, and this is a great improvement over Wordworth 2. Another very useful tweak is the removal of the text style (bold, italic,



Text frames add a great deal of flexibility to page layout, and make proper headlines possible



Text effects can often be frivolous, but their inclusion gives the package more strength in design areas



The new tables feature could have been more advanced, but is very useful in reports and other documents



Floating tool boxes mean that quickly adding a number of design elements needn't involve lots of menu access

in your ear

underline) and justification commands from the left edge to the top ruler bar where they can be found on most modern packages.

They are joined there by an all-new pair of drop down menus for font and font size, which make choosing a font much easier and quicker than before.

Drop down menus (or lists) are an all-round and consistent design approach for Wordworth 3, and can be found wherever there is a choice of more than one item from a requester or gadget, but the font selection list is easily the most useful application of the lot.

Rather than use a separate requester to make a time-consuming search through your fonts, all those that Wordworth 3 will use can be found in the drop down list, from where a new font is easily selected.

The new design and drawing tools are many and varied, some more useful than others, but all are welcome additions to a modern word processor. They are grouped loosely under the title of Objects, including all structured drawing tools, text effects, and tables. Of most use in page layout and as an aid to design, though, is the new text frame feature. Creating an object can be accomplished either by using the Object menu or summoning the floating object tool box by clicking on the appropriate button from the button strip. Choosing the text frame icon and dragging a box out on screen places a blank box of any size anywhere on-screen.

A huge advantage with the Wordworth 3 text frames is that they can contain any number of lines of text, so proper headline-style boxes are possible, unlike the more restrictive Final Writer text frames.

In addition, each frame can have multiple columns and any fill, border, and font styles available to normal text on the page, so that a complete document can be built out of them. This flexibility puts Wordworth 3 firmly into the DTP arena, and though it's still not up to the likes of PageSetter 3, there isn't enough difference when creating most documents to warrant the user owning both packages. For a great many simple and some not-so-simple document types, Wordworth 3 would be perfectly adequate.

Also brand new is the extensive text effects option, capable of some weird results which may or may not be useful depending on just how wacky your page layout requirements are. In a similar manner to text frames, text effects are added as objects and have their own requester which controls the final effect.

When the frame is first placed, a quick double click reveals the requester, into which the user types the text to which an effect is to be applied, then selects from one of five effects, line, circle, arc, spiral in, and spiral out. A selection of presets is available for quick formatting, but there's plenty of scope for experimentation.

All effects frames can be rotated to the exact angle of the user's choosing, and shadows can be added with their offsets also controlled to the last millimetre.

As a bonus, those with colour output in mind can have the text start in one colour and gradually change to another for a gradient effect, and if this isn't enough, the individual letters can be set at a specific rotation from the baseline.

Though just a little bit dinky and of limited use in most documents, the text effect feature is very handy when creating a letterhead, fax header, or other layout in which a logo of some sort is required. Even if not used, it is great fun to play around with.



Objects, including the structured drawing tools, turn Wordworth into an effective DTP system

TABLES

The last new feature available as an object is the table generator, with which users can quickly create a simple table of a user-defined number of columns and rows.

Again, there is a dedicated requester for the table feature, controlling fill colour, text flow around the table, and colour and weight of the lines used to draw it.

No settings are offered for a table heading, caption, or other advanced features, but though fairly basic there is no doubt that many users would find automatic table generation a real boon.

The ability to format any text within the table's boxes, and shrink, expand, or remove any of the rows and columns offers a certain amount of control over design, so ➤

Flashback!

Final Writer is the obvious comparison for Wordworth 3, and many of the improvements in this release seem to have been prompted by Softwood's flagship word processor.

It is difficult at the moment to judge which is the better product, as Final Writer 2 is being released as this review goes to the press – look out for the full review next month – but it is safe to say that Wordworth 3 has a definite lead over the first version of its main rival.

Some of Final Writer's features remain unbeaten, particularly its more flexible implementation of the button bar idea, its style tags, and its faster graphics handling, but as Wordworth now incorporates good word crunching with powerful design features, it has leapfrogged back into the lead.

➤

there's enough to make the feature very worthwhile in reports and other documents where data is to be presented.

To aid those typing raw data into a document, there is a simple calculate function, new to the tools menu, which will calculate the total, maximum, minimum, or average values for any row or column of figures in a table.

Alas, there's still no graph or pie chart generator such as found in, say, Word for Windows, but this PC monolith costs £400 or more, so who's complaining?

One final group of features new to objects are those relating to grouping and so on. Any object, be it a simple line or an imported IFF, can be grouped with others, then moved around together. Objects can also be moved forwards and backwards to achieve layering effects, and any object or group can be copied to every page in a document, making the duplication of a company logo very easy indeed.

CRAFTED

Locking objects is also catered for, an underrated feature which can save a lot of hassle. When happy with the placement of an object, the user can lock it in place, making it impossible to upset a carefully crafted layout or move a large picture and incur a time penalty while the screen updates.

As all imported pictures can be previewed in full colour or as crossed out box, users can elect to turn off large images to save time, giving Wordworth 3 all the advantages previously only enjoyed by Final Writer.

Though the new objects features have attracted a lot of attention, they are not the most important from a word processing point of view, and the many improvements and tweaks found in Wordworth 3's more sober areas are every bit as welcome and, in some cases, more useful.

The find and replace routine, for example, now offers users the ability to look for paragraph breaks and tabs, hard spaces, page numbers, and has a wildcard option which makes global search and replace a far more powerful tool when working with large documents.

> Most useful of all, though, is the template option, which is much the same as Final Writer's master page approach. The user can save a document as a template to be used as a blank whenever a new document of that kind is created

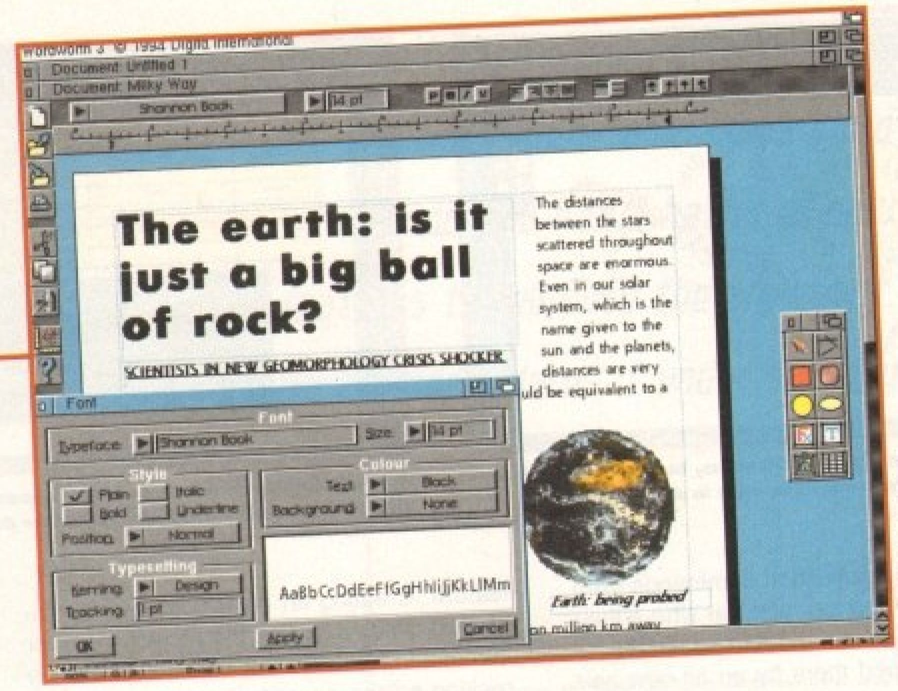
Writers who work with both PCs and Amigas will tell you that nitty-gritty differences such as this can be the difference between one WP and another.

A new font requester which offers better control over text is also a welcome addition. From the same window, users can now select a font, change its tracking (space between letters), select superscript or subscript, and elect to use design or text kerning.

KERNED

The former is used for larger font sizes where letters have to be kerned (roughly equivalent to how much they are "fitted") closer together to avoid, for example, a headline looking too spaced out or becoming too wide.

Most useful of all, though, is the template option, which is much the same as Final Writer's master page approach. By creating a basic layout including a letterhead or some other universally used design elements, the user can save a document as a template to be used as a "blank" whenever a new document of that kind is created.



The font requester brings most typographical controls together in one easy to use window

Fax sheets are a good example of this kind of template, but invoices, letters and other often used formats benefit equally from the use of templates.

As objects which have been carefully created can't actually be saved out (though they can be cut and pasted between documents), the template is the only way to quickly recreate a useful layout.

On balance, the bugs aside (and we can only hope these are quickly dealt with by the dispatching of a patch disk to registered users), Wordworth 3 is a worthy reply to the challenge of Final Writer.

Though still slow at times, its speed when using graphics has been markedly improved, and a long list of new or improved features has removed many of the deficiencies suffered by its predecessor.

Now more flexible than anything else on the Amiga, and still a powerful word engine as well as a glitzy layout package, Digita have, for the moment, regained the high ground. Tune in next month to see if their spell at the front will last. AC

Verdict: Bugs galore

Whether through a desire to launch before Final Writer 2, or through plain old human error, this first release of Wordworth 3 reaches the shelves with several bugs, many of which are fairly major.

On the A1200, for example, the program is not as stable as it should be, and frequently crashes. Screen glitches caused by the drop-down menus and the odd requester are also common, and the quality of Digita's bug testing has led this reviewer (who is writing this review using Wordworth 3) to put the auto-save delay down to only three minutes.

One of the most annoying bugs is that many requesters don't automatically pick up values from a document. In particular, the paragraph requester doesn't pick up the style information when more than one paragraph is selected at once.

This means that if restyling a large section of text – necessary when you don't have style tags – you have to type all the margin settings and so on back in.

If the line spacing gadgets, which think that line spacing is "mixed" (whatever that means) aren't re-educated, the result is that a 3,000 word document can be squeezed down to a single line.

Again, when deleting a graphic which previously had text flowing around it, it is necessary to reformat the affected paragraphs because they don't automatically flow back into their original shapes.

Happily, though, Digita have just announced that v3.0a is to be released, probably before you read this, and that all bugs will be fixed in the new version.

They are calling it a "general tune-up", and claim also that speed has been improved. Watch the Updates column for a report on this patch disk when we receive it.

SYSTEM ESSENTIALS

RED = Essential BLACK = Recommended

2 Mb RAM | Hard drive

The bottom line

Product: Wordworth 3
Supplier: Digita International
Phone: 0395 270273
Price: £ 149.99

Ease of use 9
Implementation 4(9)
Value for money 8
Overall 5(9)
(Apply second score when bugs are fixed)





Epson Scanners

The GT-6500 and GT-8000 24-bit colour flatbed scanners from Epson scan up to A4 in size, with output resolutions of up to 1200DPI on the GT-6500 and 1600DPI on the GT-8000 in 16.7 million colours, greyscale or line art. The scanners include either PowerScan or Image FX scanning software. An optional automatic document feeder is available.

Epson GT-6500 PowerScan	£599
Epson GT-6500 Image FX	£689
Epson GT-8000 PowerScan	£849
Epson GT-8000 Image FX	£929
Document Feeder	£399



PowerScan 4

Completely re-designed powerful user interface, produce 256 greyscale images (on a AGA machine), scan in 64 greyscales (non AGA Amiga can only display 16), add colour to greyscale images, special effects, new support for 18-bit scanner, add text to scans, available with mono or colour scanner. A1200/600 version available soon.

PowerScan 4 (Mono)	£119
PowerScan 4 (Colour)	£239
PowerScan 4 inc. OCR	£159
PowerScan 4 upgrade interface	£50
PowerScan 4 upgrade software	£20
OCR Full version	£49



Epson LQ-150

The LQ-150 is a fast, quiet 24-pin colour dot matrix printer. With draft printing speeds of up to 216 cps and high quality colour text and graphics output. The LQ-150 has a built-in 50 sheet paper cassette with automatic paper feed, and an optional tractor unit for use with continuous and multi-part stationery.

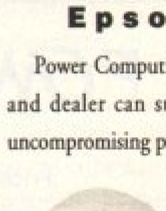
Operating either flat or flipped on its back - to save desk space - the LQ-150 incorporates Epson's ESC/P and ESP/P2 printer languages, ensuring compatibility with most popular software packages. It also comes supplied with Windows printer driver for use on your IBM as well.



Optional tractor unit

Epson LQ-150

Power Computing being an Epson distributor and dealer can supply all Epson products at uncompromising prices.



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Epson LQ-150 (inc. all cables)	£229
Tractor Unit	£29.95
Black Ribbon	£5.95
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44a/b Stanley Street Bedford MK41 7RW
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The impressive DVEs couldn't be simpler, but remember many of the effects require MorphPlus in addition to ADPro, ripple being a classic example

Macros for the masses

Video software can be highly complex, but with macros it is possible to simplify things – at a cost. Paul Austin discovers how ADPro and MorphPlus approach one-key desktop video

Since longer than many of us would care to recall, ADPro has been synonymous with the best in Amiga image processing. Although bursting with assorted special effects and power features, the program has always fallen short as a friendly multi-processing environment.

To be fair, it isn't that ADPro doesn't support multi-processing, it's just that to fulfil its potential required a fairly in-depth understanding of ARexx. In the past ASDG naively felt that the user base, inspired by the software, would devote time and effort into ARexx and in turn ADPro.

However as they soon discovered, graphics enthusiasts are artists by nature and have neither the time nor the inclination to master a programming language.

And to be honest, when you pay so much for pro image processing software, automation should be guaranteed and not left in the hands of a user who wants results, not programming lessons.

As a result, ASDG fought back with the release of FRED, a program which heralded the effort for improved multi-processing. Although a big improvement, it was mainly useful as a off-line sequence generator and image compositor – ideal for those lucky enough to own still-frame video recorders, but it still fell short for the rest of us.

With the partial success of FRED, ASDG went on to launch the program which appeared to finally solve the problem of ADPro automation. With the arrival of ProControl, a friendly interface at last appeared to heal the sometimes torturous accord between ADPro and ARexx.

ProControl not only brought unrivalled multi-processing to both ADPro and MorphPlus, but also offered it up within a beautifully clean and concise interface which transformed hours of hard graft in a text editor into a matter of seconds and the occasional mouse click.

EXCITEMENT

However, after the initial excitement cooled it soon became clear there were still a few areas that could benefit from a slightly more intuitive approach.

Although unbeatable when it came to file format conversion, resolution chances, scaling and the application of multiple operators, ProControl still required a high degree of user experience when it came to creating special effects, and compositions which evolve over time.

As a result, there was still a gap in the market, which has now been filled by Multiframe from Macro Systems – the German manufacturer better known for their hardware exploits such as VLab, Retina and Toccata.

With the arrival of Multiframe, Macro Systems have taken an impressive first step into software publishing. Like its counterpart, the program provides yet another friendly alternative front-end for the creation of DVEs – alias digital video effects.

Although this would appear to spell out direct competition, there is a subtle difference between the two packages. Although ProControl is capable of DVE generation, it tends to be much better suited to complex image manipulation using multiple operators in a single pass – which don't change over tim The reason for this is that ProControl

BACKGROUND

Although almost the entire article has been dedicated to the relationship between MultiFrame and ProControl, ADPro and MorphPlus aren't the only packages which offer batch processing.

Arch rivals of ASDG in the image processing business are, of course, GVP with their ImageFX image processing system. Unlike ADPro/MorphPlus, ImageFX ships with a multi-processor built-in at no extra cost. Admittedly the IMP – alias ImageFX Multi Processor – isn't as flexible as the ADPro offerings, but it does offer basic multi-processing with options to convert formats, scale and add colourisation effects across a batch of images.

However it doesn't offer the DVE generation, which both ProControl and Multiframe can provide. But if you're about to take your first tentative steps into the world of high-end Amiga graphics it certainly worth serious consideration.

generates the Script as you add the parameters – in effect you still write the script – and as a result multi-processing a single image into a sequence or combining multiple frames with the assistance of an alpha channel still requires an understanding of ARexx and the inner workings of ProControl.

MultiFrame, on the other hand, lacks the infinite flexibility of ProControl but does provide a point and click approach to the generation of DVEs.

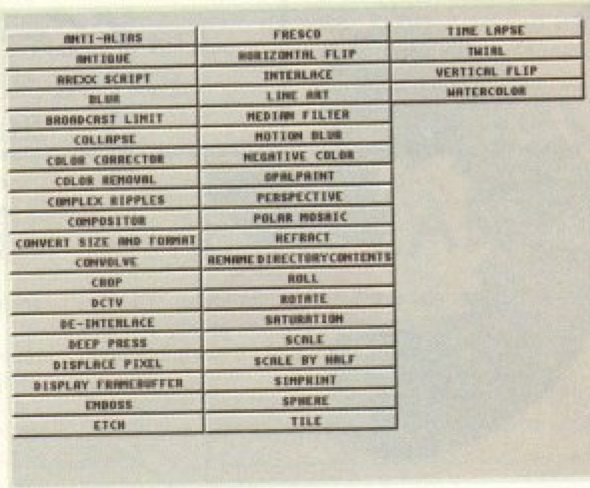
Rather than generating the script as you go along, you're provided with selection of pre-written processes to which parameters are added. As a result there's an inevitable trade-off between instant special effects and user control.

As you can see, Multiframe is very graphically-oriented with button selections controlling almost the entire process. At the top of the screen you're provided with various options to select your source graphics, add alpha images – if composition is required – and assign the output directory for the end results.

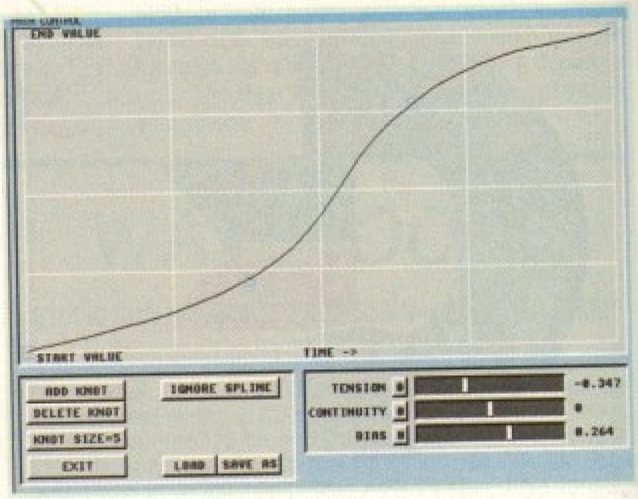
IMPORTANT

After selecting your image(s), the first step is to set the number of frames to be generated. Alongside this sits probably the most important button on the screen. This Single or Multiple source toggle allows you to define whether the files are to be generated from one image or an entire sequence.

Obviously if you wish to process an existing multiple frame sequence, the parts must be saved in a background directory and



Just pick your process and let Multiframe do the rest



Time line control with the assistance of MultiFrame's optional spline control

numbered accordingly – the same applies for the foregrounds and alpha sequences.

On the other hand, if you wish to generate a DVE sequence from a single source, numbering isn't a problem – just select the file, define a single source, specify the number of frames, and apply the effect with the necessary parameters.

At this point, a sequence will be automatically generated with the effect increasing incrementally over the frames. Wonderful stuff – instant DVEs at the touch of a button.

However, Multiframe doesn't stop there. Unlike ProControl, the program also supports spline-based time line control. As a consequence any process can be fine-tuned to speed up and slow down according to a user-defined spline.

To adjust the spline, a simple click on the Path button reveals the spline window with a definable number of Knots and tension controls with which to adjust the curve and subsequently the application of the effect during the sequence or anim.

AUTO-DISPLAY

Next up comes the excellent frame buffer screen which allows you to select between the Firecracker, Retina, OpalVision, DCTV or Harlequin as an auto-display device.

By toggling various buttons you can define whether the image should be automatically displayed on the chosen board either before, after, or before and after processing.

Like spline control automatic 24-bit previews are unique to Multiframe and make life – and early error detection – much easier. Of course, the requester also offers preview on the Amiga screen – in fact, both can be used or toggled between as required.

Following the impressive Path and Frame buffer controls come a series of slightly mundane system options which allow the specification of defaults such as the program's temporary store and Rexx directory.

In addition, you're also supplied with a GPI button which leads to the general purpose interface set-up screen. From here you can control external devices such as single frame controllers, digital recorders and assorted DVE devices with the assistance of an optional hardware add-on.

Apart from the four remaining buttons for the loading and saving of defaults, about information and quitting, that's about it for the initial set-up.

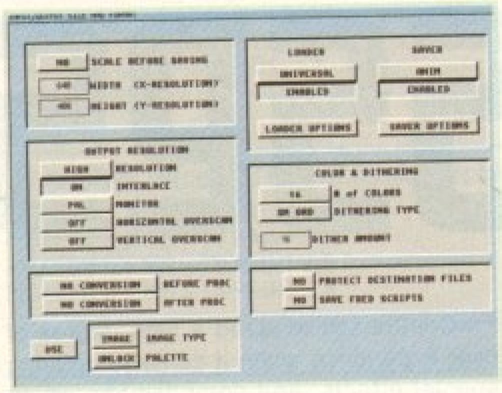
When you've added the necessary information, all that's left is to select the process you require, add the necessary start and finish parameters and initiate the process.

As you can see there's a selection of 54 assorted processes covering a wide variety of effects. However don't be deceived by the Ripple example – this is the only one which provides a graphic interface on setting up. All the others simply use start and finish text boxes – all of which require parameters to be typed in.

Due to the need for specific parameters it's often essential to pop back to ADPro, fire up the desired operator and experiment with various settings to ascertain the best start and end parameters.

To assist in this, a small flip switch on the main screen allows you to jump between the two programs when necessary. In addition another very useful button allows you to automatically delete the contents of the output directory, either with or without a warning requester.

A particularly pleasant aspect of almost all the available processes is the ability to save parameters, which means you can soon build up a library of effects which can be called upon whenever necessary.



Basic format conversion and scaling courtesy of the input/output screen

Verdict

Given the assorted swings and roundabouts of both Multiframe and ProControl it's very difficult to give a "yes/no" decision on which is the best investment. In a perfect world the ideal solution would be to invest in both programs and exploit the best elements of each.

For those who have no interest or aptitude when it comes to fine-tuning scripts, Multiframe is probably the ideal choice. It asks very little from the user in exchange for an impressive array of instant DVEs.

On the downside it lacks a lot of flexibility in relation to ProControl. A prime example of this is the need to re-process sequences. Let's say you needed to crop the image, alter the resolution, turn it into a negative and add a ripple. You'd require three complete passes over the entire sequence – which on larger projects could take a very long time.

However, if you applied the same changes using ProControl, everything could be done in a single pass, but would require a much more in-depth understanding of ADPro and the idiosyncrasies of ProControl.

For the pro videographer it's safe to say that Multiframe is just too useful to ignore, while artistic technophobes will find it a breath of fresh air in the sometimes stuffy and complex world of Amiga DVE generation.

SYSTEM ESSENTIALS

Essential: ADPro or MorphPlus
Essential: OS 2.04

Recommended: ADPro and MorphPlus
Recommended: 24-bit board

The bottom line

Product: Multiframe
Supplier: Meridian Distribution
Price: £99.95
Tel: 081-543 3500

Ease-of-use: 10
Implementation: 8
Value for money: 7
Overall: 8

As the Government dithers on the subject of computer pornography, the techno-pornographers continues to outwit the law. Phil Morse returns to the subject he first reported on two months ago to catch up with the latest developments

Beyond

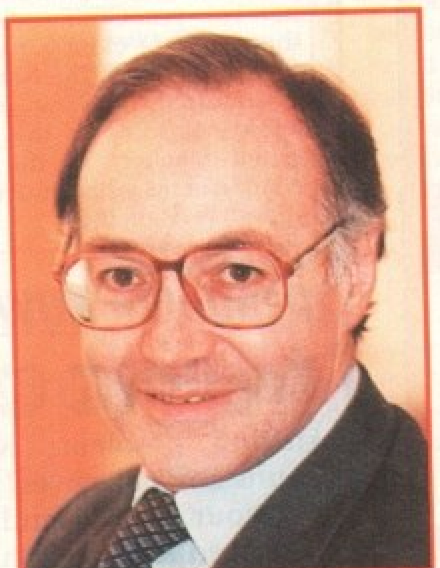
A couple of months back, we reported on the growing trend to import pornographic images of all types into this country over international telephone lines. We also demonstrated both the ease with which it can be done and the variety of images – both static and moving – which can be found.

We explained how children have been caught distributing such material on floppy disks (like the one mounted on the front of this magazine when it was bought), and highlighted the concern over this new and extremely distributable type of pornography, especially considering the ease with which the very young can use computers when compared to many of their parents.

The article closed by reporting news of proposed forthcoming tightening of legislation to try to curb the phenomenon, although we expressed doubts as to whether telephone lines could, morally or practically, ever be effectively policed.

Since then there have been a number of developments, some frightening, some hopeful, some curious. Public concern has risen; our original *AC* article was extensively quoted in the *Guardian* newspaper, and with television and other major publications currently preparing more coverage of the subject, the publicity shows no signs of abating.

Here, then, is our summary of recent developments, and some further ideas to help push the debate forward.



Home Secretary, Michael Howard. He has so far failed to turn the Commons select committee's report into law

Computer pornography. Like multimedia or the computer virus, it's a phrase conjured up to explain yet another phenomenon of the new computer age, and like multimedia and the computer virus, the majority of the population have nothing but a vague idea as to what it is.

The difference is, of course, that while technologically obscure jargon is of no real interest to most, a phrase as deviancy-ridden as computer pornography most certainly is.

And when a recent court case involving the attempted rape of a six-year- old girl by a boy of 13, who had seen computer pornography, hit the headlines, the pressure to do something – or at least to be seen to be doing something – moved up a gear.

On February 9 of this year, a Home Affairs select committee at the Houses of Parliament published a First Report on the subject of computer pornography. It made a number of recommendations, mainly involving clarification of the law in order to encompass the peculiar legal grey area surrounding electronic data.

This is important because while it is easy to prove that, say, a pornographic video is indeed pornography, it's an altogether harder proposition proving the same thing about a series of electronic bleeps coming down a telephone.

Sir Ivan Lawrence, Conservative chairman of the select committee, summed up the dilemma: "There is immense public concern about computer pornography. The technology advances that have been made recently have been moving ahead of the law."

> **"The current technology makes the law very difficult to enforce"**
>
> ***– Home Office***

As the law stands, it is illegal to import pornography into the country in any "tangible" form – which means that if it is sent over a telephone line, it escapes the law's exact wording.

As Labour MP Steve Byers warns: "To take an extreme case, imagine that a perverted teacher called up a number in the Netherlands on the school computer.

"He could have hard-core pornography which it would be illegal to buy in this country transmitted down the line, without breaking the law."

IMPOSSIBLE

Although the MPs who made up the committee acknowledged that it would be impossible to halt the import of pornography in this manner by legislation, they stated that a tightening of the law would nevertheless allow police to prosecute where they did find evidence that the crime had been or was being committed.

It is a view shared by the Crown Prosecution Service, the people who decide whether such cases should ultimately go to court or not, and the Police Federation, representing those who would actually be enforcing the law. But it's a view which the Government seem not to agree with. For merely a day after the real-life child/computer pornography story made it into the paper, Home Office minister David Maclean announced that the government would not be changing the law.

In making their decision, the Home Office had no doubt listened to the advice of customs officials, who had warned that monitoring phones for pornography would be controversial and probably ineffective, and discovered some technical legal difficulties of its own to add to the excuses.

So why does the Crown Prosecution Service still insist that, yes, "it would be possible to enact such an offence"? And why does Sergeant John Ashley, whose work in Greater Manchester Police's Obscene Publications division has made him a national expert on the subject, still urge just such a change in the law?

In short, why, if somewhere, somehow, someone has been caught importing computer pornography over the telephone lines, will the government not change the law to allow them to be prosecuted fully and properly?

The Home Office insists that "the technology makes [the law] very difficult to enforce". Further than this, it seems that some of the earlier loopholes highlighted will be closed.

But all of this still leaves the law at best ambiguous and at worst useless when it comes to the importation of computer pornography in the one way it most happens – across the phone lines

We all realise, or at least we should realise, how utterly confusing and downright unintelligible computers and the computer industry can be to someone on the outside, with no inclination to use or learn about the technology people such as the average *AC* reader takes for granted. Maybe a little techno-fear has a part to play

the pale

in the government's reticence to update the law. One can understand hesitation in altering a law to govern something those doing the actual altering do not really understand, but the reality still will not go away.

While the Government dithers, technology moves on. Reports from Germany suggest that hard-core pornography is already available on compact discs which can be viewed on Commodore's CD32 games console. It's a far cry from Zool, and a damned sight more worrying.

An industry insider informed us that the complete range of Electric Blue pornographic films, from porn entrepreneur Paul Raymond, will soon be openly on sale in England on CD too.

It is clear that, whatever happens next, the twin race of technology vs the law does not stop here. In the meantime, porn most certainly is swapping hands on disks in our playgrounds, aided and abetted by its easy importation into the country over the telephone lines.

ETHICS

It's an industry, and one which we ignore at our peril. As always, education must be used as a tool where legislation fails. Sgt Ashley: "All schools should teach computer ethics. They're all for teaching children how wonderful computers are, but they should also teach them about the harm they can cause."

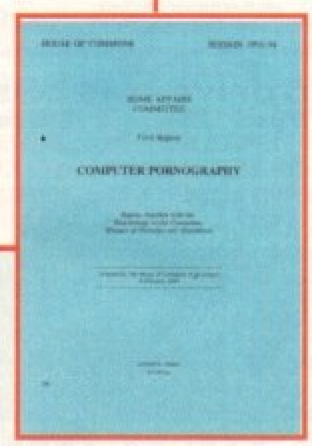
But until the Criminal Justice Bill finally becomes an Act, it remains to be seen what will and will not make it into law. It seems doubtful whether legislation in the near future will be even midly effective, because in order to solve a problem you have to understand it.

If our Government continues to ignore the advice of those who have taken the trouble to study the problem, we will move no closer to a solution. AC

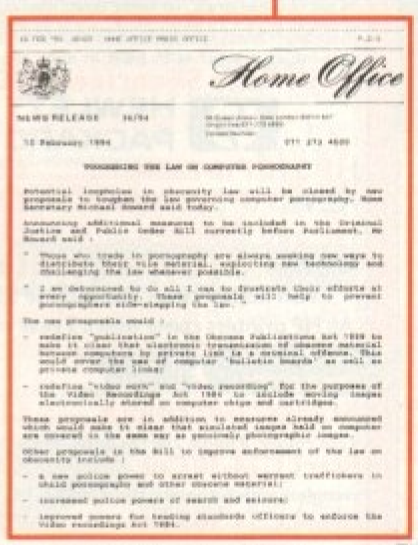
Too little, too early?

Before the publication of the Commons select committee's report, the Home Secretary, Michael Howard, announced the proposed tightening of certain laws regarding the distribution of computer porn.

He outlawed transmission of data (ie the sending from your own computer of pornographic images), and for the purpose of prosecution, included moving images "electronically stored on computer chips and cartridges" within the jurisdiction of the Video Recordings Act 1984. However, even if these proposals all become law, they do nothing about the wider problems highlighted in the select committee's report.



The House of Commons Home Affairs committee's report on computer pornography which was snubbed by the Government



The Home Office announces Michael Howard's limited reforms of the law regarding computer pornography



Have your say

What are your feelings on this subject? Being computer enthusiasts, it's just the type of ideas our readers may have which are especially useful in a debate where many of the commentators are unsure as to what they're dealing with.

So have your say! Drop us a line at Pornography Feedback, ESP, Amiga Computing, Europa House, Adlington Park, Macclesfield SK10 4NP.

This committee recommends...

The main recommendations of the Home Affairs select committee First Report on computer pornography were as follows:

- To make composite pornographic images – those containing more than one image (say, a young-looking woman's body and a child's head) – the same as any other pornography as far as the law is concerned.
- To increase the penalty for transmitting pornography (ie within Great Britain's boundaries) by any means, from £1,000 to £2,500 and three months in prison – or both.
- To amend the Customs Consolidation Act to make clear that it is an offence to import pornographic material into the country, and to make this offence arrestable.
- To clarify the law to make it absolutely clear that possession of pornography on, say, a hard disk, is as much of an offence as possession on printed paper.
- That the Government should give serious consideration to banning all advertisements (in magazines, for instance) for obscene material distributed from abroad.
- That the law be amended to allow the police to use confiscated computer equipment to continue the fight against computer pornography.
- That the Home Office should consider whether training in computers be made more widely available to police officers, or even be included in the CID training course.
- That head teachers receive guidance about dealing with computer pornography, and schools report back any incidents of it in order to form an accurate picture of the spread of computer pornography in schools.

The report dismissed suggestions that bulletin boards in Great Britain should be licensed, on the grounds that it would be unnecessary and ineffective anyway.

Interestingly, it also recommended that the Government should involve the European Leisure Software Producers' Association (ELSPA) in discussions with a view to what further steps might be taken to stop the sale or hire of violent and/or pornographic computer software; a salient point, with ELSPA's classifications system currently suffering from teething troubles.

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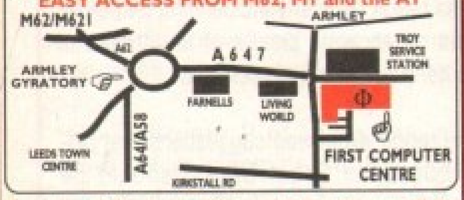
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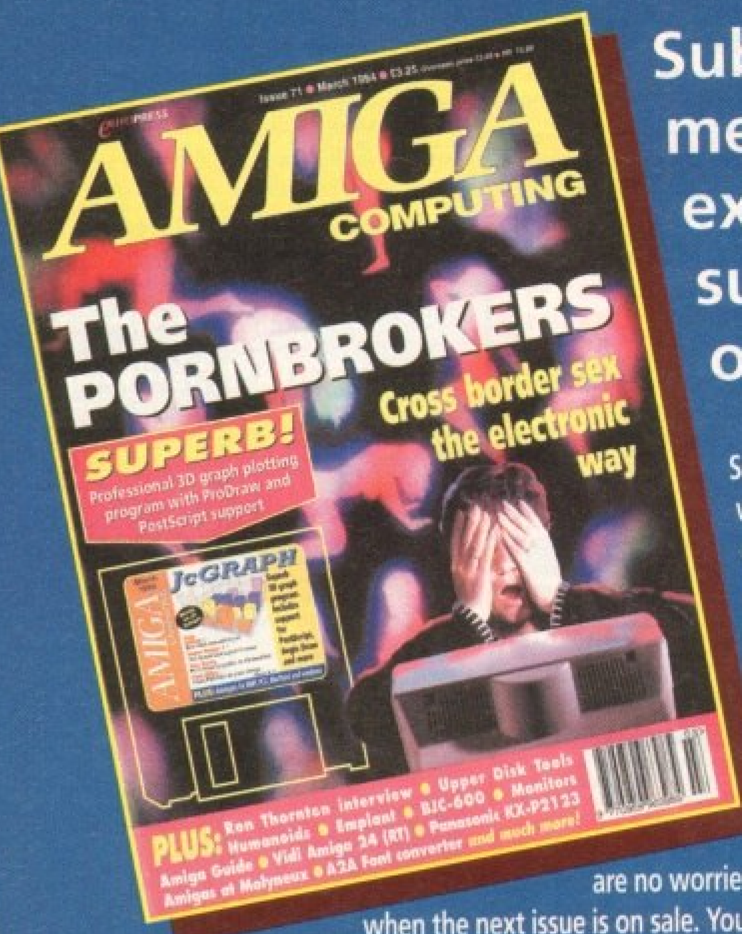
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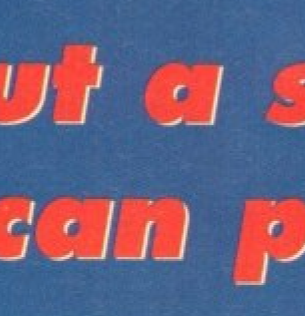
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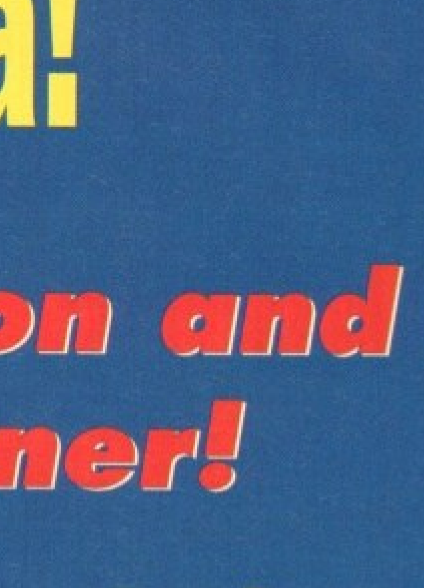


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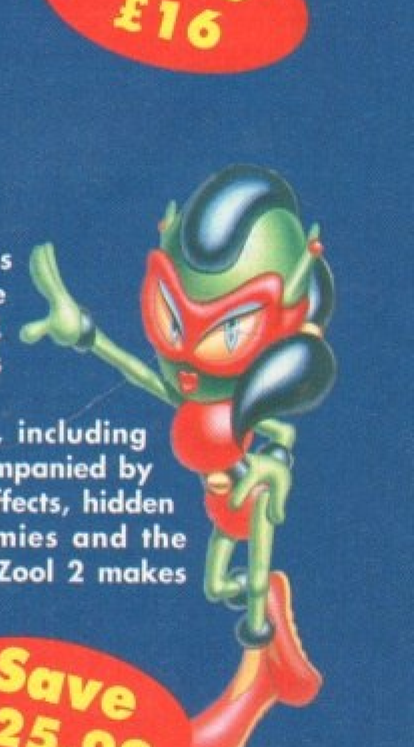
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Zool 2 is suitable for any machine, though A1200 owners can choose an enhanced version (see order form).



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Going back to basics?



star letter

Are you moral crusaders? I thought I'd bought a computer magazine (March 1994 issue – Ed) but it turned out to be a copy of *The Watch Tower* instead. This really is too much. First of all, the entire porn question has been completely blown out of proportion. Even some of the so-called revelations in *The Cook Report* have since been discredited as TV cheating, but here we are with yet another sad attempt by *AC* to improve sales figures by morally castigating the issue while making sure that everyone knows there are dirty piccies inside.

This isn't the first time you've done this, but for me it's the last. Even if you are serious in your staunch moral outrage (though given the number of topless pictures you printed I doubt it), what gives you the right to preach to me?

And as for some of your more salacious claims – what crap! Yes, there are sick and perverted people out there, and yes I have no doubt that there are some using computer technology to push their sick wares, but 99 per cent of all BBSs and PD clubs stock nothing more outrageous than Erica whatsit from *Baywatch* showing her, er, charms.

Let's face it, if this is your idea of porn then the tabloids print stuff just as pornographic. Personally I don't see anything wrong with these types of collection.

They certainly brighten up the rather boring backdrops you get with Windows and Workbench, and before anyone starts accusing me of being a MCP, two girlfriends of mine use Chippendale backdrops on their machines.

By constantly (and cynically in my view) pursuing this "your child can get hardcore perversity from almost any PD club" route, you are now doing this country a lot of harm. Why?

Well, this country cannot move forward or compete unless we have a new generation who are computer literate. How many children didn't get computers which Christmas because mum and dad thought little Tommy might end up becoming involved in a sordid porn circle? I am not suggesting that we should just ignore the problem of the real disgusting stuff, but please let's get it into proportion and quit the sensationalist approach.

Darren Smithson, Reading

You admit only in your final paragraph that we have a problem with the "real disgusting stuff", yet your letter shows that you misunderstood the purpose and content of the article.

We have not and never will be morally outraged over page three-style images sold openly by PD libraries. This is legal and, in the eyes of most reasonable people, acceptable so long as it is sold to adults.

The recent articles in *AC* concerning computer pornography (May 1992 and March 1994) have concentrated almost exclusively on those images and animations which are obscene and which would certainly fall foul of the Obscene Publications Act.

By highlighting the deficiencies in the law and the way in which computer porn was (in the past at least) policed, we feel we have made a constructive and objective journalistic contribution to the computer industry as a whole.

You say that 99 per cent of PD is perfectly clean, but this was not the case before our May 1992 article, and the situation has only improved since increased public pressure brought about by the mainstream press and TV prompted further action by the authorities.

Read *The Guardian*'s 23 February edition to see how our "sensationalistic" coverage can have an effect on the wider press, then tell me that we are in the wrong to attack a new angle on the pornography problem.

European bulletin boards working as commercial companies selling nothing but obscene pornography across the UK's borders with nothing to stop them doing so is a completely new development and had we ignored it we would have been guilty of far more than risking offence to some of our readers.

We printed the images you find distasteful precisely because we too thought them distasteful. Had legal advice not cautioned otherwise, we would have included an example of bestiality, a subject which most of us find it hard to believe exists.

You don't have to see too many digitised animations of women having oral sex with Irish wolf hounds to decide that we have a problem which demands attention.

Would Parliament have debated amending the Obscene Publications Act to include BBSs, and would TV and Fleet Street have taken an interest without the lead given by specialist publications such as *AC*? Probably, but it is doubtful if they would have given computer porn the attention it has received to date.

New system

I have bought your magazine for two years and I'm generally pleased with it. Each month I usually find an article or a review I'm interested in and I can return to the others as the month goes on.

One thing that's always annoyed me, though, is the general tone of the mag. Some of the reviews are a bit too technical even for a fairly knowledgeable person, and the games section seems designed for 16-year-olds.

The result is that I often find 30 or more pages do not interest me because they either blind me with science or treat me like a school boy. This is a waste of money, and considering the average price of a magazine is £4 with an average 180 pages, I spend about 64p for nothing.

Ian Peterson, Gosport

Your reaction to some parts of the magazine was one which we found commonly expressed in our reader survey carried out last year, and since then we've been looking at ways of fitting the magazine better to the tastes and preferences of our readers. The upshot is the new look we've introduced this month, and we hope you like it.

Amiga Computing has no wish to sensationalise the pornography issue, and has never cynically used it as a sales booster (two articles in two years is hardly a record of consistent exploitation), but we will never take our eyes off the issue and if another new twist in this already twisted strand comes to the surface we will certainly run another piece on it.

That's what we're here for, and if the video industry had had a healthy independent press during the early 70s it is possible that the industry's image would not have been so badly damaged by the flood of XXX-rated videos which hit these shores. They might even have closed the legal loopholes as quickly as they have closed those concerning computer porn.

C.O.D. solution

I have just read the letter from Ian Belmont in Carlisle in the March 1994 issue of *AC* and would like to inform your readers that there is a foolproof method of obtaining goods from mail order companies that puts the purchaser at no risk whatsoever.

In the early 80s I purchased a Sinclair QL with a modem and used my credit card to pay. The cost of the item was over £300, my credit card was duly debited, but the goods never arrived and the company producing the modem went bust.

It took many months to have the transaction reversed and get my money back into my account, so I decided there had to be a better way. After a bit of searching around and finding out that it was impossible to get items on approval or return from computer retailers I mentioned my problem to a friend who works for the Post Office, who told me about the Post Office's cash on delivery service (C.O.D.).

This is a system whereby you can phone or fax an order to a supplier, they then take it to the Post Office and send it to you, you pay the postman for the package, and the Post Office then pays the supplier.

I have used the system since 1985 and have had no problems with it. Any supplier who refuses to send items C.O.D. just doesn't get my business.

There is a small charge for the service which the supplier always passes on to the customer, but because mail order is usually much cheaper than retail, the small charge is well worth it. I also find that items ordered C.O.D. tend to arrive very quickly, usually posted the same day they are ordered.

I believe that if the item's value is more than £50 you have to collect it from your local Post Office because the postie is only "bonded" to collect up to £50, but this is, I feel, far better than either travelling to the supplier or risking losing your money altogether.

It would be a good idea if all your advertisers could offer this service and state clearly on their advertisements whether or not C.O.D. is available.

Roger Barefoot, Larne

The C.O.D. system, much forgotten in these days of courier delivery and credit card phone sales, is indeed a sterling service offered by what is still a cheap and efficient national postal service, though how much longer the current government will allow this to go on before breaking it up and flogging it off bit by bit is anyone's guess.

Those who might be nervous about keeping large sums of money in the house in anticipation of the postman calling will be glad to hear that they can call at the bank before picking up the parcel at a local Post Office, so there's no reason not to give C.O.D a try.

Thanks for the timely reminder.

Got something to say through the pages of AC? Ezra Surf is our mailman, dedicated to reading your letters and selecting the most interesting for publication. Drop him a line at:

Ezra Surf's Postbag, Amiga Computing Adlington Park, Macclesfield SK10 4NP

Please don't enclose saes as Ezra just hasn't got enough paper to reply personally. He might also have to shorten your letters, so don't be offended if you end up getting the chop.

School absentee

Why isn't the Amiga used as an education computer? Many children will have an Amiga as a home computer, they will be familiar with the Amiga, and it would be easy for them to use their own machine for homework projects.

The Acorn is expensive and despite recent claims it is not the parents' choice as a home micro, nor is it common as a business machine. It is time Commodore hurt Acorn in the only real market they (Acorn) have got – the school.

Let's stop force feeding kids Acorns!

G Swain, Leeswood

Commodore have tried in the past to penetrate the education market, Class of the Nineties being their last marketing push, but have found the entrenched Acorns hard to shift.

The BBC micro was Acorn's first real education machine and it had the immeasurable advantage of television and government backing, so Acorn quickly took a commanding lead which the Archimedes – heavily price discounted to education authorities – was able to build upon.

Amigas and PCs have made inroads into the education market of late, but the Amiga has been hampered by lack of direct support from Commodore and a paucity of standard networking solutions.

Though we agree that education is an area in which the Amiga might find an improved market share, it is unlikely that schools will look much further than Macs and PCs because these days they try to prepare pupils for the practical uses of computers they will find on their desktops at work rather than simply teach them the rudiments of Basic programming and computer literacy.

More programming!

Why have you discontinued the programming tutorials you always used to run at the back of the magazine? I'm one of those people who learned most of his programming from magazine articles, but apart from Amos and a bit of AmigaDOS for beginners you seem to have abandoned the programmers among us.

Would it be too much to ask for a page a month on C or machine code? If you re-instated this sort of tutorial it would guarantee people like me at least one or two pages they'd read over and over again and make full use of. We don't all use the Amiga for DTP and video titling, you know!

Leslie Farrows, Milton Keynes

We dropped the programming column last year when we realised that few beginners were reading it because it assumed a certain level of competence, and the experts were frustrated by it because it was too basic for them. The plan was always to bring programming back, but we left it a little longer than at first intended.

In response to the reader survey, however, we decided to bring programming back with a bang. The Amiga Market section will from now on contain about four pages of tutorials.

To begin with we'll be looking at AmigaDOS and Assembler, but C and other languages should be covered if we think enough of you are interested in those languages.

Charity plea

We are writing to you in the hope that your publication and its readers can be of assistance to us. As a charity, we are now working in Russia, particularly St Petersburg, to try and bring some hope and happiness to sick children in two of the hospitals of this beautiful city.

Unfortunately, due to so many years of neglect and under-funding all the hospitals have become very run-down and neglected and many of them are in a terrible state. We are supplying a lot of their medical needs and have now undertaken to completely refurbish them.

However, there is one area in which your publication and its readers may be able to help us. The sick children of these two hospitals are in dire need of stimulation.

It is all the staff can do with their meagre resources to treat the children's medical conditions, and we are therefore appealing to all computer users everywhere to donate any games that they no longer want so that we can send them out to Russia for the sick children.

We have already been donated Amiga, Sega, and Nintendo games machines, and we have a team of translators sitting ready to translate the instructions into Russian.

We have also overcome the electricity conversion, so all we need now are games, but please do not send text or adventure games as the children can't read English.

Please help us to show how kind-hearted and caring the young people of the UK can be by sending us any unwanted games to the following address:

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Russian Appeal
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Mrs Gwen Brown, Project Director (reg' charity no. ED755/90)

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COMPARISON CHART

FEATURES/MODEL	GVP HD8+	ICD TRIFECTA LX	COMMODORE A590 20Mb	EVESHAM REFERENCE 100
*TRANSFER RATE: Kb per second	1066	1028	564	400
GVP DESIGNER STYLING	✔	-	-	-
RAM EXPANSION(max)	8Mb	8Mb	2Mb	4Mb
MINI SLOT (FOR FUTURE EXPANSION)	✔	✔	-	-
SCSI INTERFACE	✔	✔	✔	✔
GVP PERFORMANCE FaaastROM	✔	-	-	-
DEDICATED POWER SUPPLY	✔	✔	✔	-

*Figures taken from Amiga Computing: October 1993

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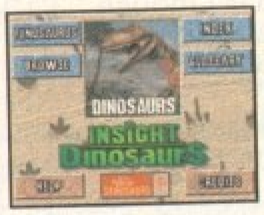
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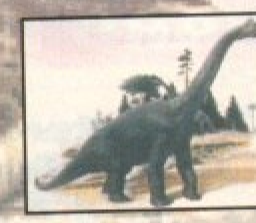
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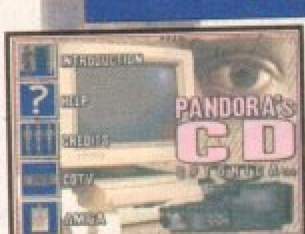


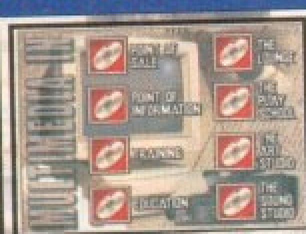
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AMIGA COMPUTING ADVICE SERVICE

Cap flasher

I have just purchased an A1200 but I am having a problem when running programs. My problem is that on several occasions the computer has failed to respond to any keyboard input after a few minutes.

At the same time the Caps Lock light will flash. Should I take the machine back or am I booting disks incorrectly?

Ray Masters, Wells

Of all the faults that happen to the Amiga range the flashing Caps Lock key has to be the most common and it normally requires professional advice.

I would imagine that you are booting your disks correctly and that there is indeed a fault with the machine itself and not your technique.

If your A1200 is still under warranty and you bought the machine before Christmas all you need to do is call Wang (Commodore's repair services) and get them to send someone out to repair it.

If the machine was bought after Christmas you may have to contact ICL who now hold the warranty agreement with Commodore. However, if you have no warranty you could be looking at a fairly hefty bill – it all really depends on the fault.

Power to the people

At present I own a 1Mb A500 with no external drives. At the moment I cannot decide between buying an external drive or buying a 2Mb RAM Expansion.

So far I have used the Amiga mainly for games but it is very likely that I will be buying a printer for word processing and database management.

Will the extra 2Mb get rid of the slowdown I get from playing certain games (such as Sensible Soccer)? Also, will it mean that I have to swap disks less for games like Civilization? I believe that an external drive would be useful on its own but that an extra 2Mb is quite useless without an external drive. Am I right? Should I buy the 2Mb expansion or the drive, or both?

R Young, Sheffield

It is difficult to weigh one up against the other as both are extremely useful. My advice would be to buy the 2Mb RAM and try and save for a small hard drive, say 40Mb. If this is out of the question then buy the second drive as well.

Owning a hard drive would mean that you could install games such as Civilization and never have to swap disks again.

The more fast RAM you own the faster software will be, although whether the speed increase would be noticeable is questionable. Fast RAM frees up the chip RAM which allows space for the computer to perform calculations. The more space, the more calculations can be performed.

Old architecture

Prior to my writing this letter I owned an A600 with 1Mb trapdoor expansion and recently required a 2Mb PCMCIA card.

My A600 then developed a fault and instead of repairing it I upgraded to an A1200. But I daren't plug the 2Mb PCMCIA card into it as I have been warned by a local dealer that by doing so could cause problems and possible failure, owning to the card's 16-bit architecture as opposed to the A1200's 32-bit.

These cards are openly sold as A600 and A1200 compatible. Tell me the truth – will they work successfully with the A1200 or have I bought a bad egg?

R Lymer, Stoke-on-Trent

The PCMCIA card is compatible with the A600 and A1200 and you cannot damage you machine by using it. As you say, the problems arise with the fact these cards have 16-bit architecture. As the A1200 uses 32-bit architecture the card can actually slow the machine down, taking twice as long to perform rudimentary functions.

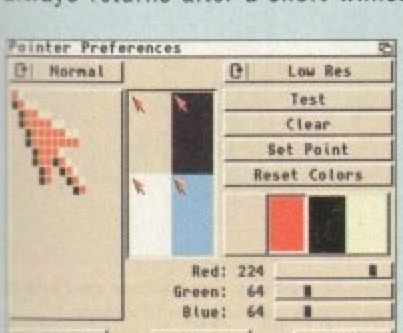
As an add-on they have failed and don't look likely to ever become popular. Your best bet is to purchase fast RAM which increases the A1200's speed considerably, and forget the PCMCIA card all together.

Niggly problems

I have an A1200 with a 64Mb hard drive and, as a complete novice, I am experiencing lots of niggly problems. One of these is that my pointer preferences window has suddenly decided to shrink in width to about half the normal size.

The normal and busy pointers have distorted accordingly and so it is very difficult to edit them. Re-installing the hard drive cures the problem but it always returns after a short while. Could you also explain why a utility disk I am using with a system information feature tells me that the device name for both my hard drive partitions is SCSI.Device, yet my user guide tells me that I have an AT IDE internal interface?

A Leak, Derby

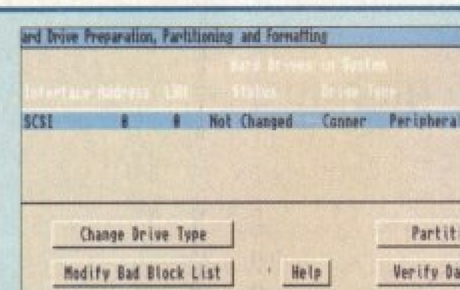


Has anyone ever seen the pointer preferences shrink to half the normal width?

I must admit to being totally stumped by your first question regarding the pointer preferences window. This window is normally in lo-res and I have never experienced it shrinking in size.

What I would suggest you do is get hold of some kind of screen grabber such as Picsaver or Quickgrab. This will allow you to grab an IFF picture of your pointer preferences window.

If you send this picture into me I may be able to offer more help. In the meantime, if anyone else has any idea what's happening write in and I'll pass the information on.



Although A1200 hard drives are in fact IDE, the cable fools the A1200 into thinking that they are SCSI

Your hard drive connector is in fact AT IDE but the connector fools the Amiga into thinking that it is an SCSI drive. There are valid reasons for doing this and you can be assured that it will not damage your computer. There really is no need to worry when system info utilities tell you that your hard drive is SCSI.

Hyper help

I would like to put together a disk containing questions and answers as an examination aid. I have a copy of Hyperbook which seems to fit the bill very nicely.

Would I be allowed to use Hyperbook as my aim is to sell my efforts. As I am dealing with a very minor subject are there any other programs I could use?

D Hart, W Sussex

Hyperbook is probably the best multimedia application you could use to create a program such as the one you have described. There are others such as CanDo and Blitz Basic but these require time to learn whereas Hyperbook is fairly simple to use.

With Hyperbook you could also attach pictures to your questions improving the look and feel of the software you want to write.

So long as you only use the Hyperbook reader you can sell your program to anyone, anytime, anywhere.

Totally degraded

Having replaced my trusty A500 with a sparkling new A1200 I find to my dismay that I can no longer run my beloved Video Studio v3.0. Moreover, the originators, ZVP have apparently put up the shutters!

I've tried Fakemem and Degrader as well as the two-button start-up suggested by Commodore but without success. Am I missing a trick somewhere or have I really got to scrap the program?

W Windsor, Buckingham

If you had told me exactly what your A1200 does when you try and load Video Studio I might have been able to offer more help.

As it is, it would appear that the program is incompatible with the A1200, especially as you have tried using several degrader utilities which have not worked.

Before you decide whether or not to discard Video Studio try and get hold of Relokick from the PD as this may offer a solution. Relokick degrades the A1200 into a 1.3 machine. It's not really much use if you own a hard drive but if you're using floppy disks it may be your last chance at getting it to work.

Loss of memory

I have recently bought myself an A570 CD-ROM drive for my 1Mb A500. But I wish to upgrade the memory of my computer as when the drive is connected my available memory goes down drastically, leaving me with about 850k.

I was under the impression that it was possible to put a 2Mb upgrade into the A570 but after a quick phone call to Silica I was told that an upgrade wasn't available.

Is there an internal 2Mb upgrade available for the A570 or not? And if there isn't, would I be able to use a DMA port RAM expansion with a through-port for the CD drive?

C Tosini, Merseyside

I'm afraid that Silica were correct when they told you that the A570 cannot be upgraded as far as memory goes. Using such a piece of hardware is not recommended for 1Mb users so I would suggest that you seriously consider increasing your RAM capacity.

Fortunately, there are some very good DMA RAM expansions that will allow you to plug your A570 in a through port. It would be best if you contacted Power Computing who are renowned for high quality RAM expansions. Power Computing can be contacted on 0234 843388.

You got problems too? Then drop a line to Amiga Computing Advice Service, Europa House, Adlington Park, Macclesfield SK10 4NP and we'll move heaven and earth to help in these columns. But sorry, we cannot reply personally, so save those SAEs

Speak the language

I have a home file program which I wrote in Basic. Originally, it involved loading Workbench, then the Basic interpreter then my program, just to run it. I thought I would make life easier by copying the interpreter onto my home file disk and then making it auto-boot.

Sure enough, the disk now auto-boots, but when I load and run my program I find that the print on-screen is larger than normal, and text that previously fitted now extends onto the next line. Also, when I try to type a new entry I find that I have an American keyboard and not GB which is installed on my Workbench disk. What has gone wrong and what can I do about it?

E Denne, Kent

If the text is larger than before I would imagine that you have not installed the fonts that the program needs. If this is the case you will need to create a directory on your disk called Fonts and copy the appropriate character sets into it.

The reason that your disk is using an American keyboard is because you have not told it to load the GB keymap. You need to copy the Setmap command from the System drawer and the GB keymap into the C directory and then type the following command in your startup-sequence:

```
setmap c:gb
```

Once you have saved the startup-sequence, reset your Amiga and hopefully the next time it boots up the disk you should have a British keyboard and not an American one.

Crash dilemma

I own an Amiga A600 to which I have fitted a 60Mb hard drive and a 1Mb expansion memory. Until recently the programs which I had installed onto the hard drive worked perfectly but now when I try to run some of these programs my computer crashes. When the computer crashes I normally get the following system message:

Software Failure - Protect Program Failed (Error £80000004)

When I do a soft reboot I normally get the following message:

Software Failure – Press Left Mouse Button To Continue – Error 80000004 Task 000B4FF8

In spite of what the first message reads I always wait for the disk light to go off and for the clock to turn back into the pointer before double-clicking program icons.

I always use the same procedure but still these programs will not work. I have also noticed that the trashcans in both my hard drive partitions have ceased to work.

I am very much a beginner as far as computers are concerned and I feel I am out of my depth so I am writing in the hope that you may be able to help me solve this problem.

J Byrne, Gibraltar

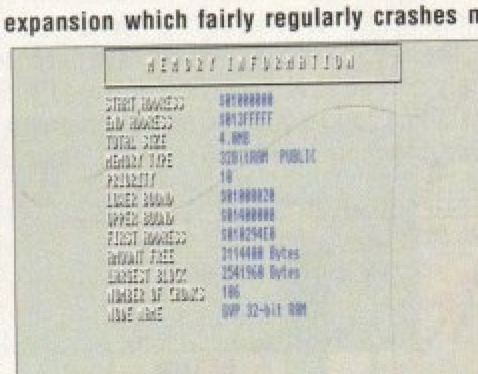
The error 80000004 refers to an illegal instruction call and normally occurs when an item of hardware is not working exactly as it should.

What I would suggest is that you try to load the programs minus the 1Mb expansion as there could be a problem with it. If the programs work you know that it is the expansion that is causing the problems.

I presently own an accelerator and RAM expansion which fairly regularly crashes my machine with the error 80000004. When I am not using the accelerator my Amiga works fine.

My only other suggestion is that you totally re-format your hard drive and then reinstall the system software and your programs. Admittedly, this is a laborious chore but if the problems persist at least you will know that it is not the hard drive or the installation.

Problems of this kind consist of a process of elimination. Remove the expansion, reformat the hard drive and if neither of these work write in again and we'll take it from there.



The addition of memory expansions and accelerators can cause your Amiga to crash



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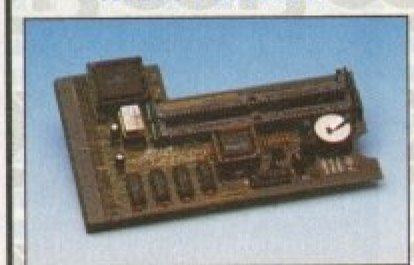
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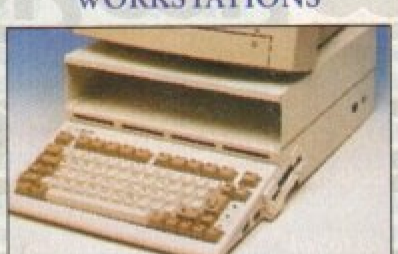
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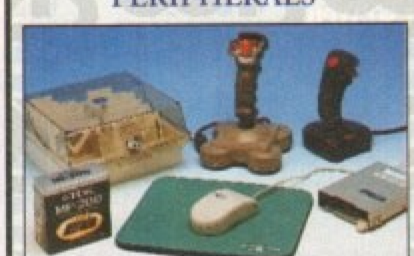
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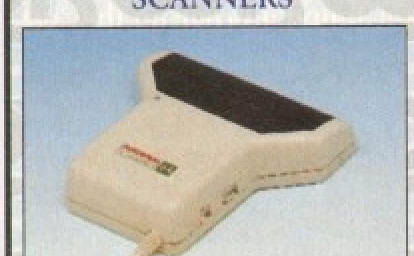
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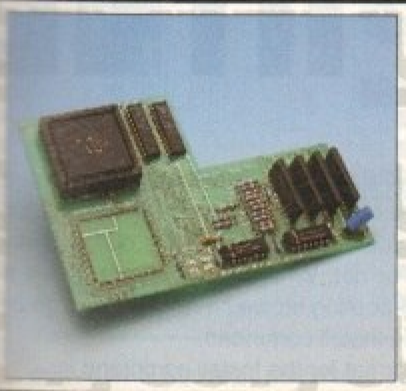
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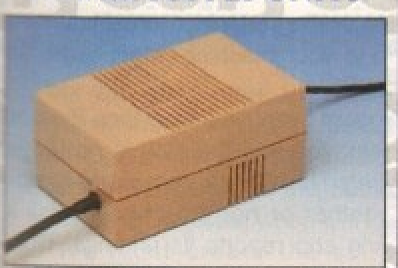
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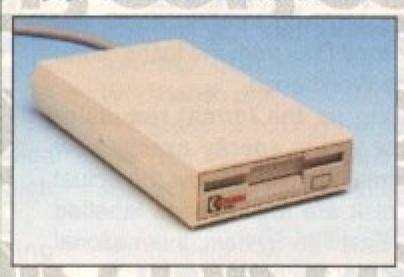
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amiga 3 DOS

Stepping int[o]

Build your own auto-booting disk in the first instalment of Steve White's exclusive tutorial

If you own an A1200, congratulations, because you have bought one of the world's most powerful home computers, capable of running advanced applications and playing superb games.

The A1200 boasts a 68020 processor, 32-bit architecture and the AGA (Advanced Graphics Architecture) chipset capable of displaying thousands of colours on-screen at one time.

What's more, the A1200 comes with a fully functional GUI (Graphical User Interface) known as the Workbench which is now into release 3.0.

To become proficient with the A1200 a good understanding of AmigaDOS is required and this is exactly what this article intends to teach you. I would imagine that you have already read your Workbench 3.0 manual and are familiar with the basic workings of Workbench.

This tutorial will cover the many aspects of AmigaDOS and help you to get the most from your machine. Throughout the tutorial you will regularly come across the terms LMB and RMB. These abbreviations refer to Left Mouse Button and Right Mouse Button and indicate that you should click that button on the mouse.

Our task in this tutorial is to create an auto-booting disk that can be used to store programs. While covering this you will learn about the structure of Workbench 3.0 and what functions the many programs have. Obviously, the first thing we must do is to format a disk ready to become our auto-booting disk. Insert a disk into DF0 (the Amiga's internal disk drive) and click on it once with the LMB. Pressing and holding down the RMB select Format Disk from the Icons menu at the top of the Workbench.

This will bring up the format requester which will allow you to specify exactly how you want to format the disk. Below the actual name of this disk are four buttons labelled Put Trashcan, Fast File System, International Mode and Directory Cacheing.

These options can be selected or deselected by clicking in the appropriate box with the LMB. Explanations of these options can be found in your Workbench 3.0 manual in section 3-22.

Let's give the disk a new name. Click in the New Volume Name box with the LMB and press the left Amiga key and X together. This has the effect of deleting the text that was previously in the box. Type in the following:

```
MyDisk
```

Press Return and then click on the Format button to actually erase the disk. If the disk was already formatted as an AmigaDOS disk you could have selected Quick Format which is a lot faster.

When the disk has finished formatting it will appear on the Workbench with the name MyDisk. Before we go on let's explain a little about how disks are structured.

An AmigaDOS disk is made up of three parts – the boot block, root directory and data area. The boot block contains the auto-boot information, the root directory contains all the information about the disk and the files that are on it and the data area contains all the data that makes up the many files.

When the root directory is erased all that's left is useless data in the data area. The Quick Format command in the Format requester simply clears this directory. This is why it is a lot quicker than the Format command as this attempts to clear the entire disk. The boot block contains the information which informs the Amiga if the disk is auto-booting or not. When you format a disk it is not auto-booting so we have to make it so by using the Install command.

The format for the Install command is:

```
Install [Drive] [Noboot] [Check] [FFS]
```

Drive can be either DF0:, DF1:, DF2:, DF3: or CC0: depending on which drive you have connected to your machine. Most users will only have DF0.

If the Noboot option is added then the boot block is removed and the disk is no longer auto-booting The Check command simply checks whether or not the chosen disk is auto-booting and reports its findings. Don't worry about the FFS option as it is ignored.

So, to make our disk auto-booting we have to install a boot block. Locate the Shell program and double click it using the LMB so that it opens up. Type in:

```
install df0:
```

When you press the Return key the Amiga will install a boot block on the disk in DF0.

Of course, an auto-booting disk is no use whatsoever without the necessary files. At this point it would probably be a good idea to explain the structure of an auto-booting disk, a structure which your Workbench 3.0 disk depends on to work properly.

Imagine an AmigaDOS disk as a huge filing cabinet capable of holding an immense amount of information. Inside this filing cabinet are sub-sections containing even more information. This is basically how an AmigaDOS disk is structured.

Your Workbench contains drawers and inside these are files and sometimes other drawers containing even more files. These drawers are called directories and are used to keep the Workbench neat and tidy.

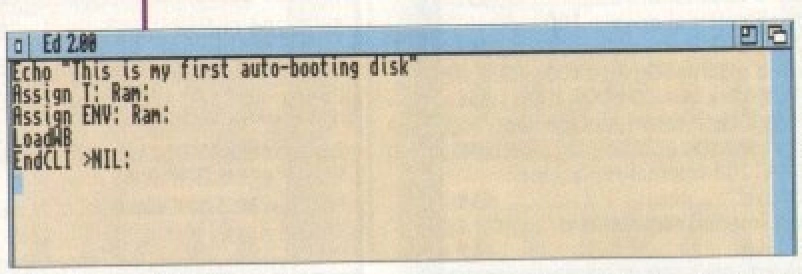
There are several drawers that auto-booting disks rely on. These drawers or directories are called S, C, Devs, Libs and L. There are a few others but it is these that are the most important. The box-out "Giving directions" looks more closely at each one.

Now that we know which directories we need on our auto-booting disk we can create them and copy the necessary files to them.

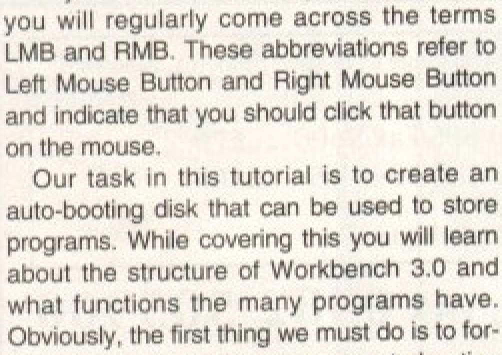
From the Shell type in the following:

```
makedir MyDisk:S
makedir MyDisk:C
makedir MyDisk:DEVS
makedir MyDisk:LIBS
makedir MyDisk:L
```

Don't forget to press Return after each com[mand]

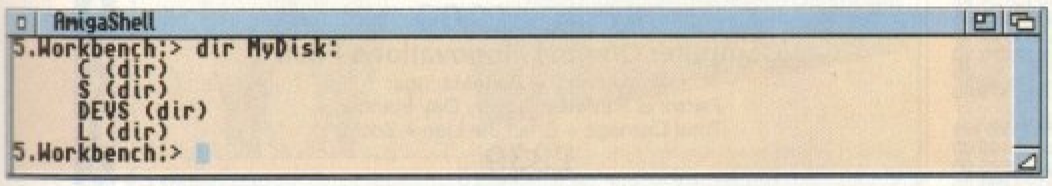


The first part of this tutorial shows how to create the basic directories and assigns needed for a disk to auto-boot

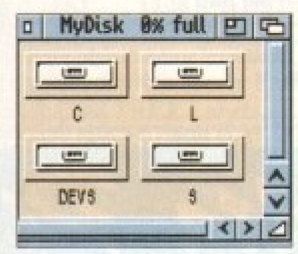


Formatting a blank disk is simple thanks to Workbench 3.0's totally GUI (Graphical User Interface). However, to install a boot block you need the Shell

AmigaDOS 3.0



Check that you have successfully created the necessary drawers by using the AmigaDOS command Dir MyDisk: Alternatively, you can check them by opening up the MyDisk disk and selecting Show, All Files from the Window menu



mand. The MakeDir command creates directories on the device specified, in our case MyDisk.

Now type in:

```
dir MyDisk:
```

This will show you all the directories on MyDisk which should be S, C, DEVS, LIBS and L. We now need to create a file called Startup-Sequence in the S directory which MyDisk can execute when it is loaded.

We must create the script file using AmigaDOS's text editor called Ed which resides in the C directory. Type in the Shell the following in order to create a file called Startup-Sequence:

```
Ed MyDisk:s/startup-sequence
```

Notice that we don't have to tell AmigaDOS where Ed is. The Shell automatically checks the C directory for commands that have no path. We could have easily typed in:

```
C:Ed MyDisk:s/startup-sequence
```

This will create a file in the S directory of MYDisk called Startup-Sequence. Obviously, the script is blank so we'll enter some instructions so that when the disk boots we have a fully functioning Workbench.

Type in the following listing, remembering to press Return after each line and I will explain what each line does after.

```
Echo "This is my auto-booting disk"
Assign T: Ram:
Assign ENV: Ram:
LoadWB
Endcli >NIL:
```

To save the startup-sequence press Esc, x and then Return. We will be improving this startup-sequence considerably in future articles but this will suffice for now. In the meantime let's take a look at each line.

```
Echo "This is my auto-booting disk"
```

The Echo command works just like a Print statement in Basic. It effectively prints the following text, provided it is contained in quotes to the screen.

```
Assign T: Ram:
```

The Assign command allows directories to be referenced by a new name rather than their usual names, in this case T. It points any reference to T to RAM. T holds temporary files and is used by the system.

You can assign any names to a path. Imagine you had a drawer called Text in another drawer called Writing on the Workbench disk.

Instead of having to change directory to the Text drawer you could simply create an assign to point straight to it, like:

```
Assign TEXT: Workbench:Writing/Text
```

Every time you wanted to load or save a text file from a word processor etc you would simply select TEXT: as the path.

```
Assign ENV: RAM:
```

Another assign, this time ENV which points to RAM once again. ENV stands for ENvironmental Variables and is used by programs to store variables. You can use these variables but they are best left to the professionals.

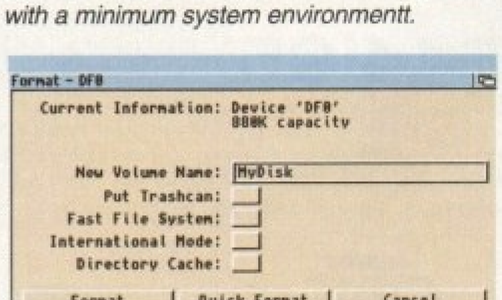
```
LOADWB
```

This command resides in the C directory and basically loads and activates the Workbench program. This command is not the complete Workbench program – it only activates it!

```
ENDCLI >NIL:
```

The EndCLI command also resides in the C directory and terminates the current CLI window so that the Workbench can be exposed. The >NIL: command suppresses any output to the screen such as a text message.

● *In the next article we will add the necessary commands so that our disk auto-boots with a minimum system environmentt.*



Like the drawers, you can check that your startup-sequence has been saved properly by opening up the S drawer and selecting Show, All Files from the Window menu

Command syntax

```
Install [Drive] [NoBoot]
  [Check] [FFS]
Makedir [Drive | Path]
  [Directory Name]
Assign [Name:] [Path |
  Directory Name] [LIST]
  [EXISTS] [REMOVE] [DI
  MOUNT] [DEFER] [PATH]
  [ADD] [VOLS] [DIRS]
  [DEVICES]
EndCLI
Dir [Drive | Path |
  Pattern] [ALL] [DIRS]
  [FILES] [INTER]
```

Giving directions

S (scripts)

The S directory contains executable scripts, one of which is a file called Startup-sequence which all auto-booting disks look for in order to boot correctly. You can take a look at your Workbench startup-sequence by entering the following command in the Shell and pressing Return:

```
Ed S:Startup-Sequence
```

The startup-sequence contains all the information needed to set up a Workbench. It basically calls commands from the C directory and runs them in order to set certain parameters so that the Workbench will function correctly.

C (Commands)

The C directory contains all the AmigaDOS commands that control the Workbench. The startup-sequence in the S directory calls these commands in order to set up Workbench. The Install command resides in the C directory.

DEVS (DEViceS)

The DEVS directory contains the device driver files for the devices that are currently active on the Workbench. It contains the driver files for things such as keyboard language, monitors and printers.

LIBS (LIBraryS)

The LIBS directory contains files that are used by programs in order to perform particular functions. They cannot be run by themselves. Certain programs may need particular libraries in order to function correctly.

L

This directory contains the device handlers, software modules that act as intermediate stages between AmigaDOS and the devices used by the Amiga. The machine calls these handlers and therefore the user needn't worry about them except when the handlers require installation.

Jargon buster

S: Contains script files including the startup-sequence

C: Contains all AmigaDOS commands such as MakeDir, Dir etc

DEVS: Contains the device driver files for the devices that are currently active on the Workbench.

LIBS: Contains files that are called by programs in order to perform certain functions.

L: Contains the device handlers, software modules that act as intermediate stages between AmigaDOS and the devices used by the Amiga

T: Used to store temporary files.

ENV: Used to store the environmental variables.

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A meeting of minds

Paul Austin reports on a revolutionary approach to Amiga marketing



All smiles from Andrew Gould, one half of the dynamic duo

It's not often that an old timer like yours truly is surprised by the antics of marketing men. It's even more unusual – if not unheard of – for the surprise to be a pleasant one.

As you've probably guessed I've just had such an experience, in a recent seminar hosted by Premier Vision. Although a new name to the Amiga scene, their founding fathers – Messrs Andy Bishop and Andrew Gould – are old Amiga hands with a wealth of experience in music and multimedia.

Now with the Premier Vision logo emblazoned across their chests the dynamic duo are determined to stamp out the scourge of sales prevention that's haunted the Amiga in the potentially lucrative corporate market.

Obviously the new Batman and Robin of the Amiga business aren't simply in it for love, but this shouldn't detract from their efforts to provide a serious platform for the machine and its ever growing range of add-ons.

To introduce unconvinced corporate types to the Amiga takes more than a free ticket to the next box-shifting spectacular. As a result Premier Vision did a commendable amount of legwork and personally invited a select audience for a full day of Amiga introduction at a cost of £90 a time.

With the aforementioned price tag and the Amiga's lack of corporate presence I was fully expecting a table of BLTs and tea and biscuits to myself.

SEMINARS

With a mixture of surprise and disappointment I found myself in the heart of London surrounded by a full house of assorted suits, graphic designers, and independent TV production companies.

During this, the first of a number of planned quarterly seminars, the onus was on the Amiga as a video tool with representatives from as far afield as Australia displaying their wares.

One of the most refreshing aspects of the day was the leaning towards presentation rather than the usual box shifting; with only one or two exceptions all the exhibitors let their products sell themselves – which in most cases they did with great aplomb. To be fair quite a few of the attendant videographic types already had a reasonable knowledge of the Amiga and were there for a first-hand look at the impressive array of third party hardware.

The highlight of the day was the debut of not one but three digital video systems. At the cheaper end of the market came the £400 Peggy Plus Mpeg card which offers an answer to the problem of full frame video encoding and playback.

BROADCAST

Unfortunately the card didn't have much appeal for broadcast types due to the encoding time, and S-VHS/Composite output. However for the semi-pro user with a Piccolo card and suitable video kit it provides an unbelievably cheap – if rather time consuming – alternative to single frame recording.

The last card to take the digital stage was the product that attracted most of the pros to the launch. The PAR – alias personal animation recorder – has already generated huge interest by not only offering live import and export of near D1 quality video but also full 16-bit audio when combined with the AD516 SunRize 16-bit sampler.

Like the Helfrich product, the PAR was put through its paces with combined live audio/video recordings which played back perfectly. To describe the demonstration as impressive would be understating things just a tad.

The assorted suits and corporate types were quite literally mesmerised by the ease of use and astonishing quality. When the price of around £3,500 for a complete pro system – with the essential IDE hard disks – was added to the equation, even the most hard-bitten Amiga bashers found it impossible to hide their enthusiasm.

Unfortunately that's about as much detail as a single page will allow, but rest assured that all of the above products will appear in *AC* as soon as they become available, as indeed will the host of other products that didn't get a mention – including the excellent revision to the SunRize direct-to-disk sampling software.

It only remains for me to thank Premier Vision for at last giving the Amiga the platform it deserves. Combine their efforts with the A.C.E. initiative and the promise of a new Risc-based Windows NT-compatible machine, and the Amiga could at last receive the corporate exposure it so richly deserves.

Helfrich's babies

An interesting newcomer was a brand new Jpeg digital video card from Helfrich International.

Although the actual name of the board remains a mystery, the pre-production model was on-hand to provide a fairly impressive display of what can be achieved on a pretty basic system.

Unfortunately the demonstration was hampered by linguistics as the German manufacturer attempted to explain that the slight pauses in playback were cause by a rather catastrophic hard drive crash the previous night which had seriously fragmented the drive.

But this did nothing to reassure the fairly cynical audience who instantly turned cold at the prospect of dropping a frame, even if the cause was nothing more than a temporary glitch.

To put the Helfrich product into perspective, it was running on a A3000 using a standard SCSI. Obviously with the addition of a healthy hard disk and a SCSI II that could transfer data roughly five times faster the erratic playback probably wouldn't have been a problem.

The board's accompanying sound card is still in the design stage but once complete it should provide CD-quality, 16-bit audio to match its 25fps, 24-bit video playback.

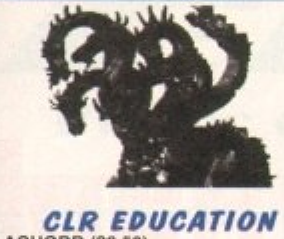
Better still, it offers much improved encoding of existing graphics with conversion speeds between five and ten seconds per frame, but perhaps most important of all was its ability to digitise live video.

Thanks to variable compression ratios, quality can vary between composite right up to within spitting distance of D1 – alias broadcast digital video.

The board is set to retail for around £1,000 minus the audio card and won't require a dedicated hard disk – although a Gigabyte drive or upwards would be a prerequisite for serious use. At the optimum quality, such a drive should provide between ten to 15 minutes of broadcast-quality video.

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Presentation for peanuts

Horrified at the prospect of spending hundreds on a presentation package? Then read on as Paul Austin previews VSP, a classy cut-price alternative

Power presentation has become synonymous with expensive software such as Scala and MediaPoint – both of which cost a packet and offer a bucket full of features which many users may never actually need.

As a consequence, Oxxi have come to the rescue with the imminent arrival of VideoStage Pro – alias VSP. In essence the program has been designed to offer all the video titling and multimedia essentials without the whistles and bells such as Midi, laser disk support, Canon ion cameras and so on.

Like any self-respecting presentation or titling package, ease of use is a high priority and in the case of VSP this is guaranteed via the entirely point and click interface.

As you can probably tell, the main screen is divided into four basic areas. Across the top are the usual array of load and save options plus a useful swap button which allows you to alternate between two projects. As a result it's very easy to swap elements between various projects using simple cut and paste operations.

Below the tool bar sits the real heart of the VSP system. As you can see the program employs a page system to display either single pages, audio events, animations, ARexx triggers, active genlock pages and VSP's own index events.

Alongside every page sit two additional icons, one of which controls the timing information while the second handles transition to the next page.

Although rather insignificant looking, these icons hold the key to VSP's titling and presentation power. For example, a click on the timing icon will instantly reveal a pop-up requester which holds an impressive array of options. Not surprisingly, you can simply add display times in seconds or jiffies – 1/50 of a second increments – but it's also possible to specify that the timing is to be recorded according to mouse clicks during playback of the sequence.

In addition, you're also given the option to schedule the sequence to run on a time/day/month and year. And when this is added to the program's ability to add interactive buttons and sub-routines, you have the basis of a very respectable interactive point-of-sale system.

TRANSISTIONS

Moving on to transition control, you're given two alternatives; you can either select one of the 20 transition types which sit permanently at the bottom of the screen, or click directly on the icon itself which will produce a requester holding the entire range of 68 assorted wipes, fades, scrolls and block transitions.

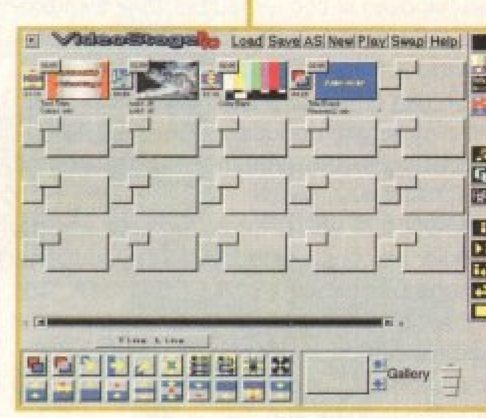
As you'd expect, transition speed is user-definable, but perhaps most impressive is the mini preview window which actually shows the selected transition in action via two thumbnail dummy pages. Assuming you've defined the appropriate timing and added the transition of your choice, it's time to move on to the next page in the presentation. In the case of video work this is most likely to be the titling page but there's a fairly impressive selection to choose from.

Along the right side of the main screen await all the available page options which from top to bottom include a basic black page, followed by a rather odd colour bar. Quite why these have been added as defaults rather than simple IFFs is a mystery, but I suppose it's still early days.

Following these come the essential Title and IFF options. As the name suggests, the Title page allows you to add animated text to the page. which like full page transitions has its own selection of approximately 45 intros for either text, brushes or VSP's own internally-generated graphics, such as the stars



Although a little rough in pre-production VSP's animated titling power is pretty impressive. Layered text and graphics, gradient fills on standard Amiga fonts and even support for EPS graphic files



Point-and-click personified. The only time you need the keyboard is to add the occasional string of text

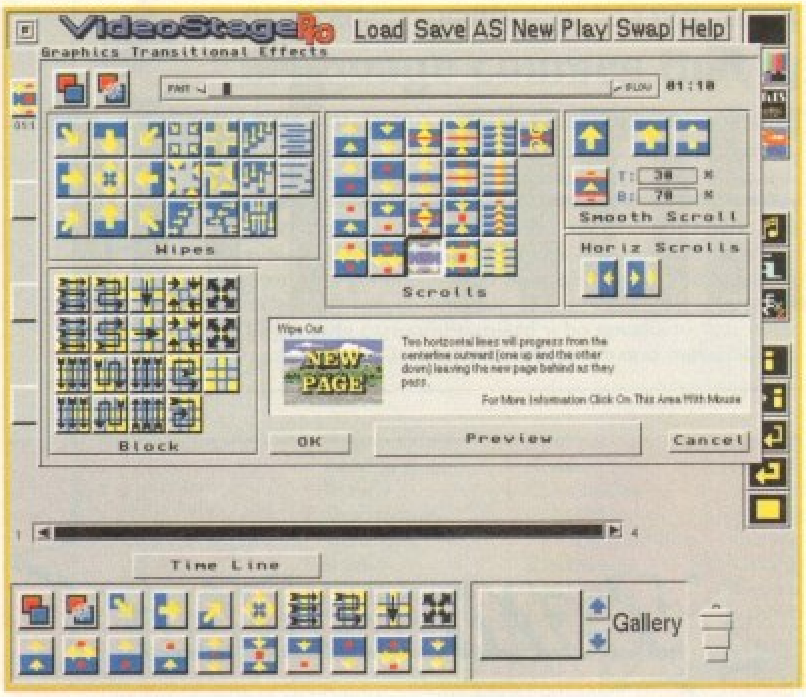
Easy authoring

Now before you run away in terror at the prospect of sub-routines and goto commands don't worry, there's no need to panic. This elementary approach to programming is very straightforward.

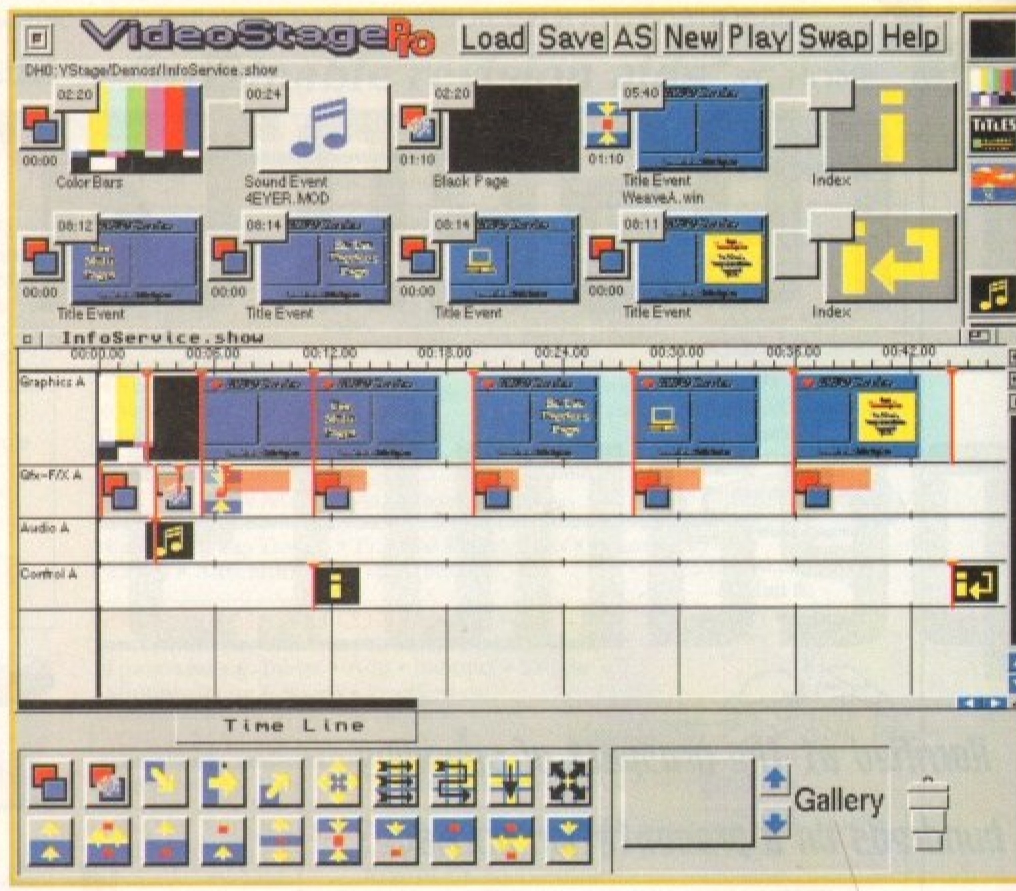
Basically the assorted index pages – shown as a series of yellow control icons – are only there for those who wish to use VSP as a interactive presentation platform.

With the assistance of the various index commands, an author is given an easy method of redirecting the user around the script according to button and hot-spot selections.

For example you can construct a simple information system which will take the user down a particular route and then perhaps return them to the main screen automatically.



An impressive range of page transitions most of which have real-time preview in the thumbnail graphics window



Timeline control, fine tuning of multiple events with simple sliders and instant access to the editors

in the Test Transition screenshot overleaf.

As you'd expect from a titling package, 3D, drop shadow, italics and outlined text are all on offer in addition to a selection of backdrops or IFF of you choice.

You can add buttons and hot-spots which can redirect the script, play a sample or issue an ARexx command. And of course anti-aliasing is optional on all graphic pages.

IFF pages offer much the same as far as text handling is concerned but they also provide the added benefit of optional animation. Moving on we come to the sound event, which can be either a sample or MOD which will play asynchronously with the graphics according to the timeline – more on that later.

Below this you're provided with special genlock screens which exploit the additional videographic power of the ECS chipset. Add to that standalone ARexx control pages and the selection of index markers – user definable sub-routines or goto pages – and the selection is complete.

GALLERY

The only other obvious element of the main screen is the rather mysteriously titled gallery window. Basically this is a graphical approach to cut and paste.

For example, if you want to copy an element to a various location you simple drag it into the gallery window, scroll to the appropriate position and drop it back in.

Although useful on larger presentations, the Gallery only really comes into its own when sharing elements from existing presentations. As mentioned earlier, it's possible to open two presentations simultaneously – in which case the Gallery can be invaluable in allowing you to copy pages complete with define effects and timing and drop them straight into another script.

Although timing control is handled fairly extensively via the individual icons for each page, the program also provides a method of fine tuning the presentation via the Timeline control window which pop-ups via a control button towards the bottom of the screen.

Once active, all the elements within the script are shown on a linear timeline with various drag bars displaying the particular timing information for the various events in the script.

As you're already aware, not all the possible events within a VSP presentation are necessarily graphical. As a result, the timeline provides a method of non-graphically asynchronously co-ordinating events with their pictorial counterparts.

For example an ARexx or audio event can be triggered during a transition or animation. In such circumstances the timeline graphics can be an invaluable aid when constructing complete multiple events within a complex presentation.

In fact for the expert the timeline can almost become a complete replacement for the main control screen. In order to edit a particular event, whether it be a transition or a complete page, you just click on its timeline graphic and the appropriate selection screen or editor appears.

Background

If you've been involved in the Amiga scene for some time there's a good chance that the VSP interface will seem vaguely familiar. The reason is that the program is a direct descendant of another Oxxi product entitled Presentation Master.

Although a very impressive product, Presentation Master did suffer from something of an identity crisis and never really found its place in the market.

In fact it's probably fair to say it was a little too far ahead of its time in attempting an ambitious combination of presentation, hypertext and DTP which often demanded too much effort on the part of the machine and its operator.

As a consequence, the best elements of Presentation Master have now been boiled down to form VSP. Fortunately the process is being handled well and the new program is becoming very much a product in its own right thanks to various dedicated videographic and titling add-ons.

Verdict

Thanks to the basic framework provided by Presentation Master and the extra videographic essentials such as genlock support it would appear VSP could well take the semi professional video market by storm.

This seems even more likely if the rumours of a price point of around £100 actually turn out to be true. However, it's not all plain sailing for the program. Although the basic structure of the package is in place, it's still a long way from perfect when it comes to playback.

During the review the program was tested on an A4000/040 and an A2000 running a GVP 030 with a 68882 FPU. On the 030, playback was particularly poor even though the machine boasted 2Mb of chip RAM and another 12Mb of fast.

Although all the transitions worked, the vast majority were very jerky and in some cases suffered from occasional screen corruption. The same was true in the Title Edit screen which also added unwanted elements within text strings.

However it must be stressed that the program is still very much a Beta test release, so a certain amount of buggy behaviour is to be expected.

As this is most definitely a preview rather than a review, any form of scoring would be highly inappropriate. However, if Oxxi can address the problem of occasional screen corruption and improve playback, the big guns in the Amiga presentation market may well have a real problem on their hands when the finished version finally hits the streets.

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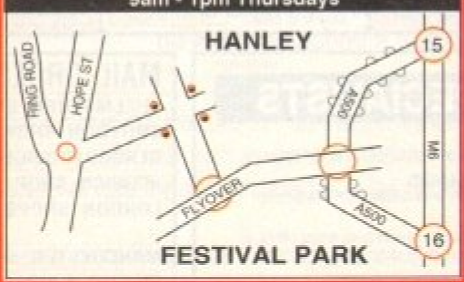
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amiga update

Italian stallion

Steve White checks out the latest contender to the paint package crown, Cloanto's Personal Paint

It was only recently that the Amiga's premiere paint package, Deluxe Paint, was knocked off the top by Brilliance. Deluxe Paint has become the Amiga owners' favourite due to its technical ability and the fact that Commodore later decided to package the program with Amiga models.

And even though Brilliance is technically better in almost all areas, it still hasn't managed to dent Deluxe Paint's popularity with punters.

Time now then for a new paint package to put on the gloves and challenge the champ. Personal Paint comes from Italian software house Cloanto, responsible for the Personal Fonts Maker program, and boasts some major improvements over previous versions.

Personal Paint v4.0 features the ability to draw in Ham8, which is exclusive to the A1200 and A4000 Amiga models, although the program will run on any machine with 1Mb RAM, including the A500.

It is fair to state that Personal Paint features a myriad of new features not supported by Deluxe Paint, but a paint package relies heavily on its ease-of-use – technical merit tends to come second.

The untrained eye could be fooled into thinking that Personal Paint is in fact Deluxe Paint, and to all intents and purposes the user interface is very similar. Most of the standard drawing tools are available plus a few new ones.

STANDARD

Apart from supporting all present Amiga graphics modes, Personal Paint also has the ability to load and save files in different formats. Not only is the IFF/ILBM standard supported but also GIF, PCX, CRYPT and C_Scr.

Crypt allows the user to protect his or her pictures with a passcode and C_Scr saves the image as C source code suitable for embedding into Amiga graphics programming environments.

Once an image is loaded, Personal Paint offers a variety of editing tools, most of which are available in Deluxe Paint. The arc tool has been much improved containing points which the user can drag in order to increase or decrease the curvature of the arc. The only problem with this tool is that when dragging points vertically or horizontally, the mouse stops at the screen edges and the curve can be extended no further. This is a major error which needs to be corrected as soon as possible.

Personal Paint also supports retargetable graphics including Picasso and Retina. However, when I tried to load a standard ILBM created in Imagine the program quit. Why I don't know!

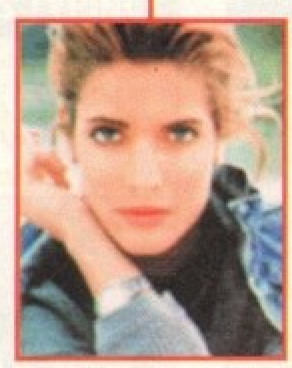
Going back to the editing tools. Drawing with extended pen nibs or brushes causes the program to slow considerably, and this on an A1200 with an 030 accelerator, FPU (floating point unit) and 4Mb of RAM. Deluxe Paint, even with full screen brushes, renders them quickly and without slowing down and therefore Personal Paint loses points to its rival.

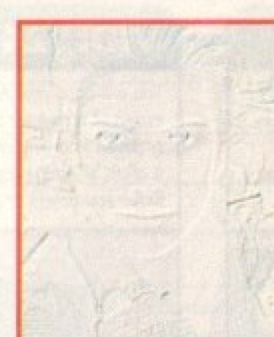
A useful feature is the Grab Application Screen which when activated allows the user to grab a screen of the Workbench or any other open application and dump the file onto the editing screen.

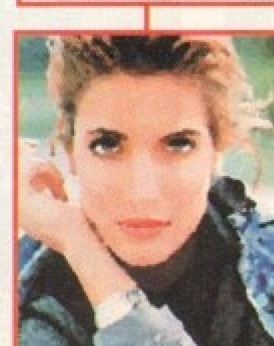
Personal Paint is capable of combining two pictures into one and creating a suitable palette. This is ideal for anyone who wants to combine pictures which contain different palettes into one single image or an animation in Deluxe Paint. In fact, an unlimited number of pictures can be merged with very little colour reduction.

Of course, the quality of the reduction depends greatly upon how many colours your initial picture contains but an AGA machine should have no problem remapping colours.

It is Personal Paint's image processing tools that make this a worthy paint package alone. It may not have animation or perspective facilities but the combination of advanced image processing and competent editing tools makes Personal Paint one of the best all-round paint packages available.







The major power of Personal Paint is in its image processing abilities. Although rendering is fairly slow the results are effective. The most spectacular process is water-colour which makes the image look like it has been painted by a qualified water colour artist. Image processing can also be applied to defined areas of the image allowing for touching up or spot effects

Apart from the customary blur, emboss and pixelise-type processing options, more advanced functions are available such as water-colour. The water-colour effect is truly amazing and gives a very realistic impression of such a painting.

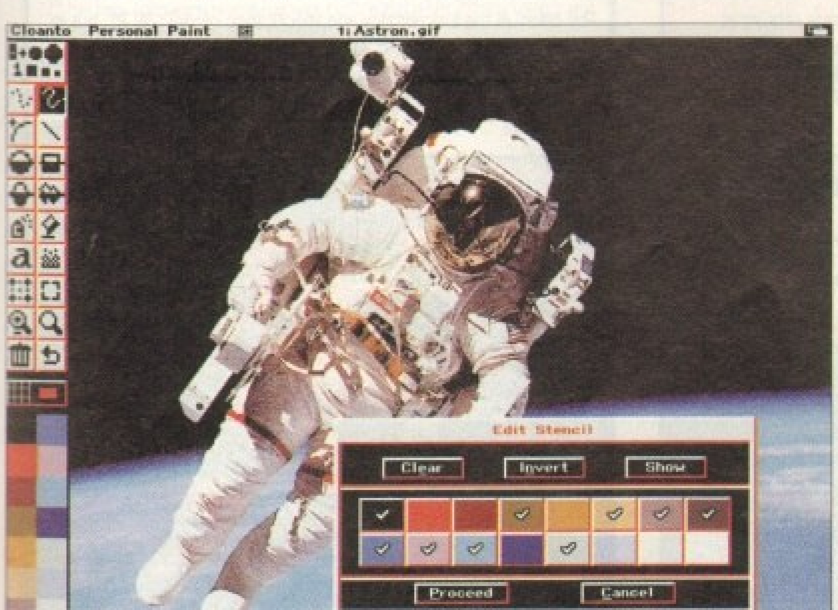
A special tool has been added which allows you to image process on specified areas of the screen. This means you can draw a shape and then process any data under that shape without affecting the rest of the screen.

PROCESSING

Unfortunately most, if not all of the image processing functions are very slow, even on the lower screen formats. Why the image processing and drawing tools are so slow is a mystery but it is a problem that certainly needs addressing and hopefully Cloanto will solve it with later versions.

Personal Paint is a great paint and processing package but there a few niggles that do let it down. The lack of animation or perspective hold it back considerably but as an addition to Deluxe Paint it is certainly worth the asking price. The wealth of image processing features provided justify the price alone.

Personal Paint costs £49.99. For more information contact Meridian Software Distribution on 081-543 3500.



Many users may be fooled into thinking that Personal Paint is Deluxe Paint. The similarities are vast but both offer distinct facilities that when combined offer extensive graphic design abilities

The bottom line

Ease of use: 8
Implementation: 7
Value for money: 9
Overall: 8
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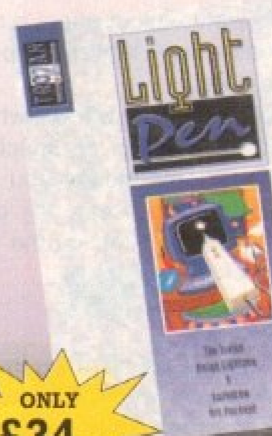


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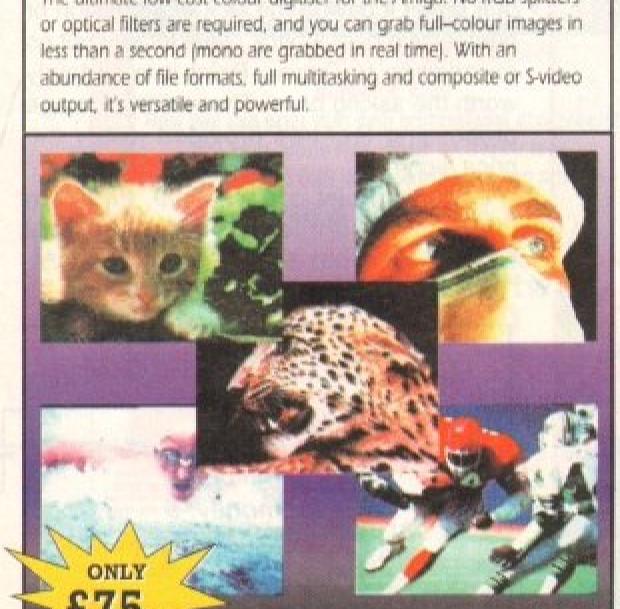
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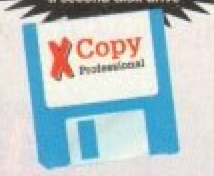
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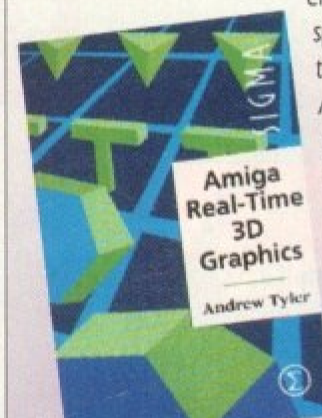
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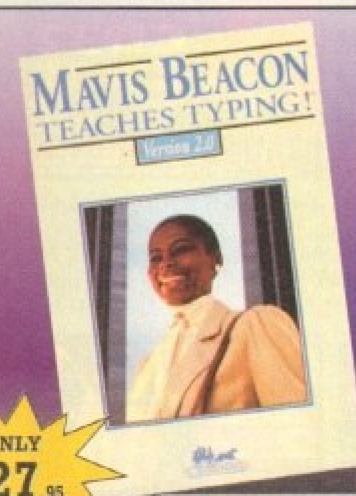


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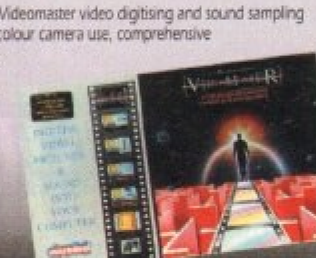
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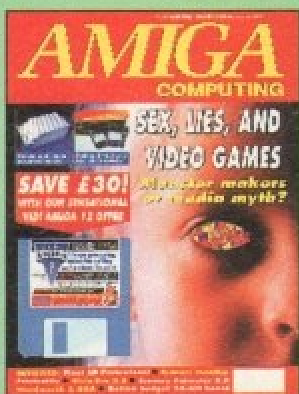
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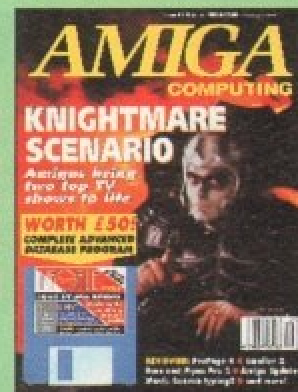
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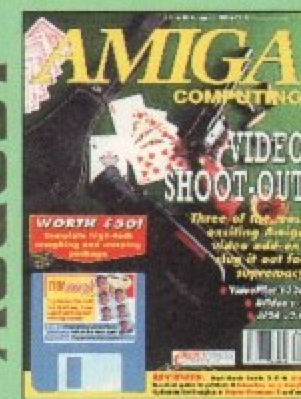
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JUNE



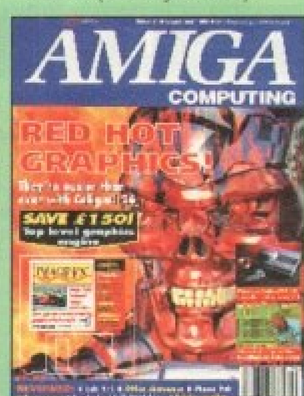
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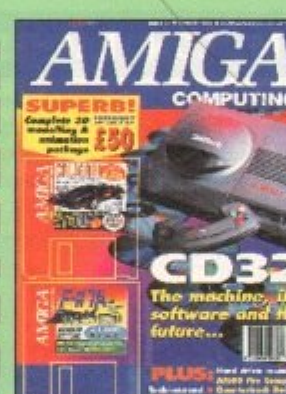
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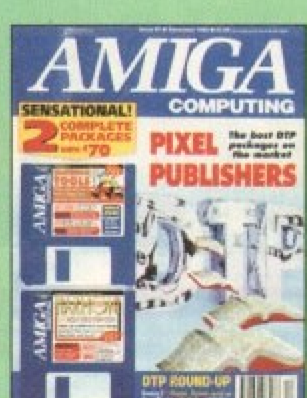
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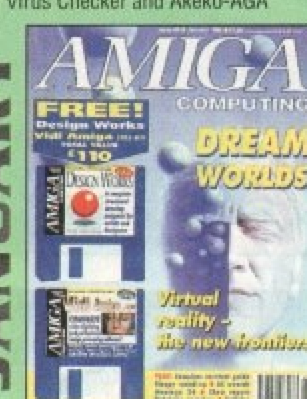
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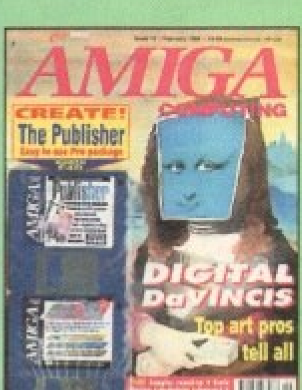
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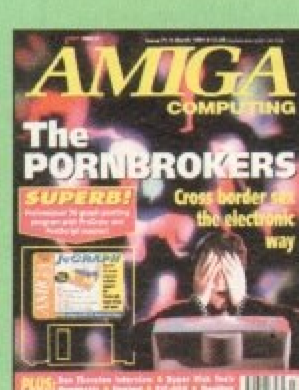
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Too little, too late?



ELSPA's new self-regulatory rules could be seen as the games industry growing up – or struggling to avoid legislation. But do they address the real issue of child protection? Adam Phillip investigates

Over the last couple of years, pressure has been mounting for the ever-growing software industry to sort out its act and clean up its image into that of a sector which cares about the effect that its games could have on youth.

ELSPA (the European Leisure Software Publishers Association) who represent the video and computer games industry in Europe, have recently introduced a voluntary code of practice for their members to put a ratings system on the boxes of games denoting to the parents what age group the title is suitable for.

The questions on the industry's lips are how effective will it be, and how useful is it at the end of the day – especially as you don't need to be a member to trade software.

Roger Bennet, general secretary of the ELSPA, is put in the line of fire for the devil's advocate. Here is his interview:

Q For our readers, could you tell us about the recent regulations introduced?

A We developed the proposal of establishing a voluntary age rating system to be incorporated on all [games] packaging. It has been discussed at great length over a long period of time and as you know, was introduced on February 9.

The reason for this age rating system is from research that's been conducted at consumer level – parents of younger children in particular are very badly informed about computer and video games.

The object of the system is to provide the opportunity of being better informed of the contents of games and to make clear which titles are suitable for certain ages.

In addition to which of course, it's important that when people are buying original software that it is seen to be logoed and identifiable in the sense that it comes from a legitimate and reasonable supplier.

Therefore, too, parents should understand what they're buying is legitimate and is produced by a responsible publisher.

Q Do your members have to abide by the new ratings or will they be struck off the list of ELSPA?

A Clearly, it is recommendation by ELSPA and we're confident that all members of the association will adopt it in due course, if not already – a vast majority are immediately adopting the system.

Q But if they don't abide, what happens?

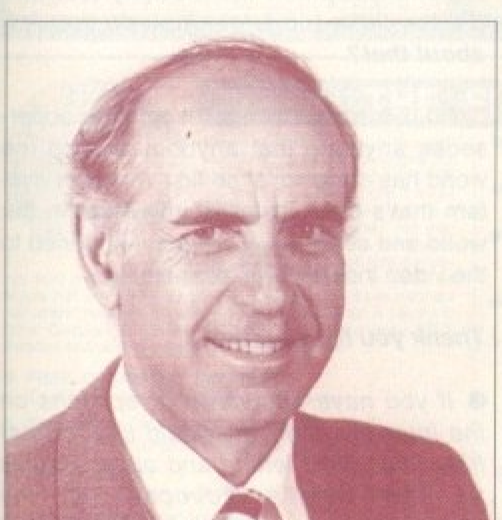
A That would be a decision that would be need to be taken in the fullness of time, determined by the circumstances at any one stage – if anyone abuses the system of course, then that's a different matter altogether.

Q Do you feel that the ratings system will make any real difference in consumer choice? Do you think parents will take notice?

A Well, it's up to them really. Obviously, it's equally up to us to ensure that they are properly informed of how it works and there will be by a campaign at retail level.

It is a voluntary circumstance and retailers may wish to adopt it but they're under no obligation not to sell any games if they're not suitable for children according to the rating system because it is not a mandatory system.

There has been pressure put on us by retailers to provide some form of guideline and therefore if retailers find that some product doesn't have a rating, it's up to them to decide whether they wish to stock it or not.



Roger Bennet of ELSPA

> Digitised images are unreal and I think that there is an awful lot of patronisation of the youth of today to assume that they can't tell the difference between fantasy and reality

Q What about the young buyers whose parents don't take an interest in what their children buy? Is there anything you can do to look out for them?

A We are providing purely a guideline for parents, not necessarily for kids. If young children want to go in and buy a game which is not suitable according to the age rating system, it is entirely up to the retailer whether they wish to sell it or not.

Q Don't you feel that highly-rated games will receive more attention, therefore help with marketing and increase sales?

A Well, the same principle applies to video or films doesn't it, really...

Q Video and film traders are legally obligated to not providing certified material to an age group below the ratings – ELSPA members have no legislation at all to adhere to...

A Since we had pressure put on us by retail, retailers will adopt a system whereby if it's not suitable, they may not sell it to the child. I mean if a child wants to get hold of it, he'll send somebody else older in to get it for him.

That same premise applies even under the lawful restrictions, so the rating system is a means by which people can identify products to be suitable for age groups.

This'll provide software of a responsible nature from the publishers and it's also a means of establishing a self-regulatory system which ideally will not require government intervention.

You must understand that the perception of this industry is fairly important and it's equally important that magazine publishers maintain a responsible attitude in the way they present products to the consumer.

The magazine publishing industry is very much a shop window and therefore, it is important... I'm not suggesting your magazine in any way... but there are magazines that have been seen to be undermining what we are trying establish, which is a responsible attitude.

Q Is the ratings system simply a way to appease the government and other censoring bodies from clamping down on ➤

the industry? Does your scheme offer real protection taking into account to the lack of legal legislation?

A The fact is that the law already exists to ensure that games that need classifying are classified...

Q That law though doesn't apply to cartridges...

A But that, I'm afraid, is going to happen... well, I'm not afraid, I'm rather glad it's going to happen. Under the current legislation going through Parliament, the Criminal Justice Act is being amended meaning cartridges will be included.

Q Do you feel that games such as Mortal Kombat are healthy titles for the young player?

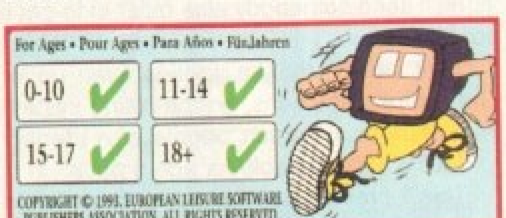
A Well, the initial Mortal Kombat was introduced by Acclaim, was seen by the Trading Standards Authorities, the British Board of Film Classification and the Video Standards Council and was defined as being not required to be classified. Not just under the law but in real terms, because it is a fighting game, but it is a digitised program.

The images are unreal and I think that there is an awful lot of patronisation of the youth of today to assume that they can't tell the difference between fantasy and reality.

My 14-year-old son plays computer games and I monitor what he plays.

Q What about the parents who don't monitor what their children play?

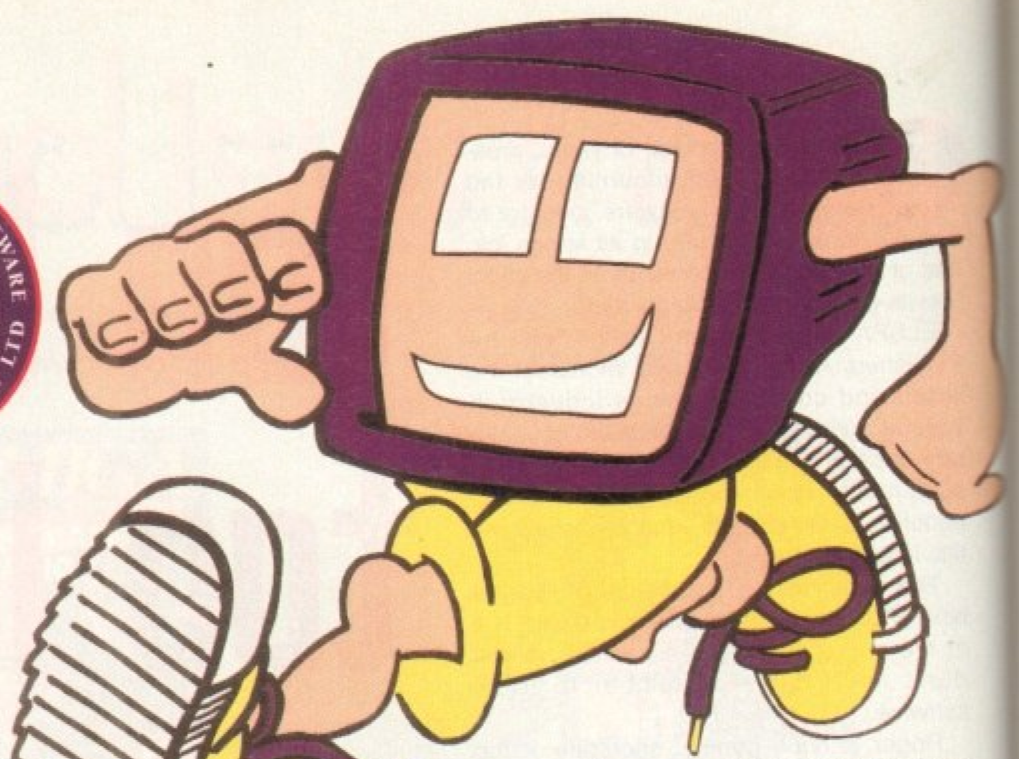
A Well, that's the object of what we are trying to achieve, which is to inform parents, or specifically those who are concerned about it but are not sufficiently *au fait* with the systems, to make them feel more comfortable about it...



That ratings box in full – like the Monitor Man, it has already undergone changes since its launch

The European Leisure Software Publishers' Association – the trade organisation behind the ratings system

> The fact is that the law already exists to ensure games that need classifying are classified



Monitor Man – the logo that was intended to go on the back of boxes. Now, it's been rejected by the industry as an eyesore

Q Do you feel that as games become more realistic and interactive, they should become properly certified like videos and films?

A Well, they will be.

Q A good thing?

A The arguments can rage in the same way as the arguments were made about the voluntary rating systems that it will encourage children to go for the higher-aged games. The same principle applies if you certify games formally in the way the BBFC classify video and film.

As more and more games require classification because of the real images shown in them, we have to work out a system with the BBFC to ensure that those games can and will be submitted in the same way that they are now on a voluntary basis.

We have to make sure that the BBFC can view the games in such a way that it is administratively practical and feasible.

I mean it is very, very difficult for software publishers to submit game details other than on video, in order for the classification to be given. We have to work out the ways in which a process can be established – we'll be doing that next week.

More games will be classified as time goes on inevitably, but of course the vast majority of games will not required to be classified formally.

In those circumstances, we believe that we have support from retail and from Parliamentary interests and from others within the industry as well as the Video Standards Council.

People will have the opportunity of getting some idea of how suitable the graphic content of a game is in age terms.

A voluntary guideline can do nothing but good in that respect and inevitably in a journalistic press and from the media's point of view, you're damned if do and damned if you don't. We feel that it is important, that it is not hype for the industry.

The rating system is simply a means of establishing the industry as responsible – it addresses its products to the consumer in a responsible way and the people who buy the product with the logo and the age rating system on it can be sure that it is acceptable in every possible way.

Q Some people in the industry feel that it's too little, too late – how do you feel about that?

A No, I don't agree at all. It certainly supersedes anything that anybody else in the world has done – it's the first voluntary system that's been installed anywhere in the world and secondly, look what happened to the video industry who did nothing.

Thank you for your time.

● *If you have any views or opinions on the interview then we would like to hear from you. Send letters and other oddities to The Devil's Advocate at the usual address... more interviews next month.*

Stop press

● Since this interview, there has been a considerable amount of dissent among software and hardware manufacturers concerning the scheme. Neither Nintendo nor Acclaim, both ELSPA members, are intending to follow the new system.

Nintendo UK said: "We have to take a global view. We can't be parochial, unless legislation absolutely forces us to."

While not denouncing ELSPA in anyway for their motivation to get something done, Nintendo are more interested in the battle in the States to establish a world-wide system. Acclaim are similarly looking to North America for a global solution and standard.

Many other companies have complained about the Monitor Man logo which has now been dropped. Electronic Arts are using the new system but, according to Computer Trade Weekly, "are not happy to", and Ocean are hoping that "something better will come along" but have agreed to use the system .

Despite these setbacks, ELSPA is adamant about their plans and believe that goverment interaction is closer than people may think

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Arachnophobia as you've never seen it before thanks to the awesome live image processing power of TBCPlus

appropriate input and output format. In fact it's here where you have your first taste of transcoding – a process which is so simple you hardly notice you're doing it.

However before you transcode or convert from one video format to another, you must define your source. In the case of TBCPlus there's simultaneous support for two composite and one Y/C, each of which can be switched live with a clean frame accurate cut.

Y/C SIGNALS

For those working exclusive in Y/C, there's also an option to accommodate two Y/C signals, but to use it you'll need to invest in a Y/C mini din which splits the luminance – Y – and chrominance – C – into two separate male phonos.

Once achieved you plug the separate signals into the composite inputs and select Y/C2 on the control panel. Now you can switch between the two Y/Cs – but of course composite input is sacrificed in the process.

Fortunately GVP have had the foresight to

That syncing

Paul Austin explores probably the best professional video peripheral of the year, as GVP unveil the amazing TBCPlus

Even though the Amiga has had a long and illustrious career in the video business, time base correctors still generate puzzled expressions and vague conversation from even the most experienced Amiga videographers.

The reason is that TBCs – as they're more often called – have always been expensive beasts, swathed in mystery, only to be found lurking at the heart of the most pricey pro edit suites.

Now GVP are set to change that with the arrival of TBCPlus, a product that not only offers colour correction and a rock solid sync but much more besides.

If you're a little unsure about the subject, have a quick browse through the background info section and pop back later because it's time to dive head-long into the features and functionality of this excellent product.

Not surprisingly TBCPlus is yet another peripheral that demands a Zorro slot whether it be version II or III, so am afraid an A1500 or above is a prerequisite. Aside from adding the card, the only other essential is to plug-in the supplied 25-pin connector, which bristles with ten assorted I/O leads.

Assuming you've selected the appropriate input and output connectors for your particular kit, all that remains is to install the software and start to experiment.

On boot-up the first task is to select the

include a comprehensive selection of preset project settings which offer automatic configuration for most systems.

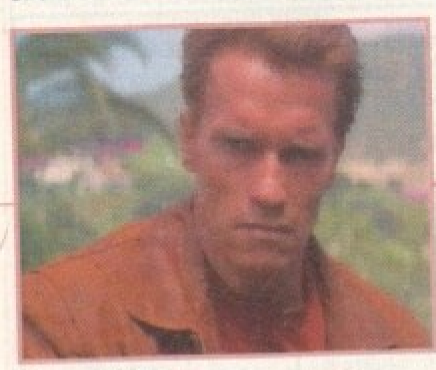
In addition, the card's ARexx support provides a few useful scripts for fading down one input, switching and fading up on another, and of course where you find ARexx you're sure to discover user-definable macros which offer an even more flexible application of the card.

BASICS

For now I'll leave the plus aspects of the card aside and concentrate on the basics. Assuming your equipment is providing an input and the correct input mode is selected, the card will automatically sense the incoming format.

However, to ensure success and to pro-

Just a selection of the available live effects that an infinite window TBC with full 8-bit 4:2:2 CCIR-601 broadcast quality image processing can provide



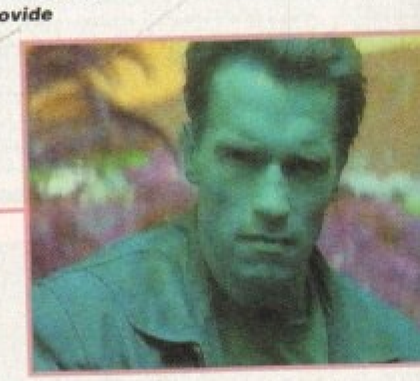
Normal video



Negative



Negative II



False colour

Background

It sounds good, the output looks great, but what exactly is a TBC, and what does it do? Essentially a TBC has two basic talents. The first is to provide a rock solid video signal which can then be passed downstream for additional processing or editing.

To achieve this the live video is temporarily stored within the board's on-board RAM, any errors in the sync are corrected and the subsequent squeaky clean signal is then passed on.

OK, all very nice, but why is a rock solid signal so important? All video processing operations require a sync signal, and the better the signal is the better the end results will be.

For example add-on hardware such as genlocks, frame grabbers, chroma keyers, video mixers and video editing systems all benefit immensely from improved signal quality.

This also extends to tape duplication. If you lose a generation in normal circumstances the degradation of the signal can cause real problems if you then need to process the signal later on. However if you use a TBC during duplication you ensure optimum signal quality and perfect sync for downstream production – no matter how many generations are lost. In fact thanks to the TBC a later generation will lose little image quality, if any.

In addition to providing a rock solid sync, the second basic element of any self-respecting TBC is the ability to apply live colour correction to the signal.

In the case of TBCPlus this is achieved via the Proc Amp pop-up requester with which you can adjust brightness, contrast, hue and saturation – in addition to mono conversion.

Add sync adjustment and colour correction and you have the basis for a TBC. But in the case of TBCPlus this is only the beginning. In addition to the essentials the plus part of the system provides real-time frame grabbing, digital video effects, live user-definable image processing, video format conversion and transcoding all as standard.

feeling

vide a little added flexibility the input requester allows manual selection between two NTSC formats, four PAL, one Secam plus two mono modes running at 50 and 60MHz respectively.

Assuming you're happy with you inputs, it's time to move to the output requester and select between the six assorted PAL and NTSC formats.

All you need do is select the format you require, and the outgoing signal will be automatically converted and sent simultaneously to composite and Y/C outputs.

As a result you're provided with a means of converting NTSC, Secam and PAL to either PAL or NTSC frame rates and resolutions, while simultaneously transcoding the signal either to or from Y/C or composite with the minimum loss of image quality.

As mentioned in the background info, another common use for a TBC is live colour correction. Here again TBCPlus scores well via the Proc Amp pop-up requester which allows complete control over the colour composition of the signal.

With the various transcoding, format conversion, sync adjustment and colour correction TBCPlus adds up to an impressive – if somewhat specialist – pro video product. However, that's only the beginning...

Although TBCPlus has the option to add additional special effects hardware, the card also ships with a impressive collection already built-in. Thanks to the board's 1Mb frame buffer you're provided with three strobe DVEs plus a single freeze frame effect.

Better still, the effects themselves can employ a user-definable delay. As a result you can emulate simple stop frame animation or go right up to user defined sequential snapshot freeze frames.

Although this may be stating the obvious, it's worth stressing that all the effects listed are applied to live video and can be switched and combined with colourisation effects without a glitch.

GOODIES

As you can see from the screenshots, strobe and freeze frame effects are by no means the only goodies on offer. In fact the board's built-in colour processing options can produce stunning end results. And of course, when combined with the strobe and still frame your imagination is the only limitation. I'm impressed!

Like the rest of the system, special effects receive a high level of user control with options to grab either full or odd and even frames for both still and strobe effects.

As for colourisation control, you're provided with a slider to adjust the severity of the chosen effect. Again all adjustments are made in real time – so you can add even more variety to the chosen effect.

An obvious extension of the freeze frame effect is the ability to grab and store the data on disk. As a result, superb frame grabbing is a key TBCPlus feature. Due to the broadcast quality of the strobe and still-frame features, grabbing single frames is second to none.

As you're probably aware, VlabY/C offers more advanced frame grabbing features such ➤

Beginners jargon buster

advance sync: An advanced sync signal transmitted 4.1 microseconds ahead of the video frame which allows servo-locking VCR's to precisely match the incoming video sync signal.

black burst input: A completely black video signal which supplies an external sync reference for TBCPlus when being used as a frame synchroniser.

chroma: The element within the video image which carries colour information.

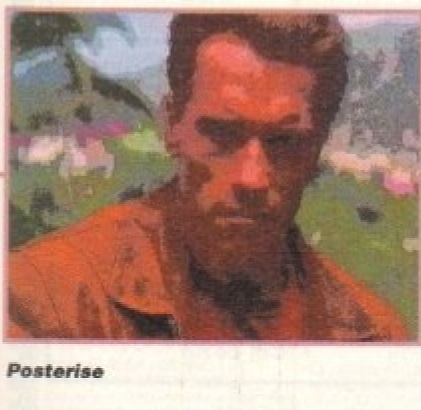
luma: The element within the video image which contain brightness information.

composite video: A single video signal which contains all the information necessary to form a complete video image.

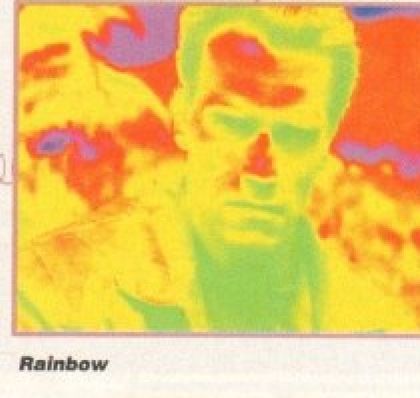
Y/C: An abbreviation of luminance and chrominance, used to represent a two channel video standard used by S-VHS/ Hi8 video equipment.

sync: A sync pulse is the first element in a video signal.

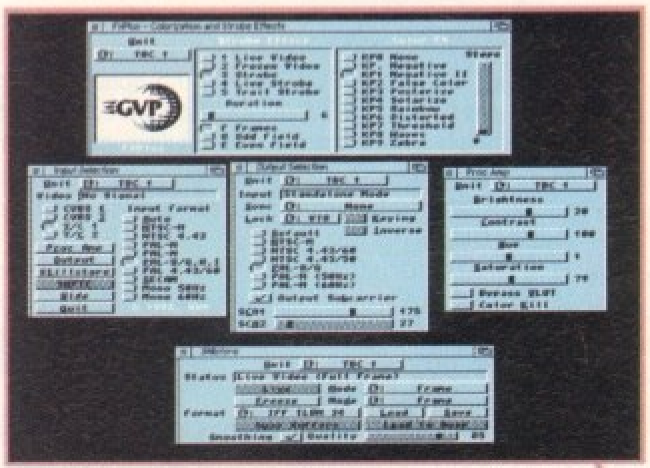
I²C: A serial communication specification used widely in professional video equipment.


Posterise


Solarise


Rainbow


Distorted





Above left: Easy set-up via the board's basic control requestors – plus another four calibration pop-ups waiting in the wings. Above right: ImageFX import couldn't be simpler. Add an alpha plus the odd effect and your imagination does the rest

as sequential grabbing via the IFR system, but if you're after full frame grabs that hardly ever require deinterlacing, TBCPlus is quite simply the best in the business.

Aside from the unbeatable image quality, TBCPlus has another huge asset for the professional videographer. Although there are quite a few real-time 24-bit grabbers on the market, most suffer from a noticeable pause between hitting the button and the actually grabbing the frame.

But with the assistance of TBCPlus the grab is instantaneous. Obviously during fast action and close edits this can be invaluable, and of course the lack of interlace flicker means even fast action can always be stored at optimum quality.

GRABBING

Unfortunately there is one minor limitation in the grabbing department. Although you may have a colourisation effect running at the time, the actual grab is always saved out in its original form, so you'll require the assistance of ImageFX, ADPro and ImageMr to emulate the desired effect after grabbing the image – see ImageFX on-line box for more information.

Like the effects section, stillstore offers a good deal of user control with options to select between odd or even fields plus full frame. When a suitable image is captured, you're provided with the option to save out in the following formats: IFF24, Jpeg – with user-definable compression and optional smoothing, YCrCB and Caligari.

As you've probably gathered thanks to the brief mention of the ten-way 23-pin connector, input and output are taken very seriously on the TBCPlus.

The various inputs include two RCA/phono composite ins which can also double-up as an additional split Y/C. As well as the aforementioned RCAs, there is also a single Y/C mini-DIN.

In addition to the basic video ins, there is also a sync reference or black burst-in which with the assistance of a T-connector can provide a sync reference pass-through. Finally there's an additional – and separate – stand-alone key input.

Output does equally well with simultaneous Y/C and composite-out plus a separate advanced sync which can be used with downstream hardware.

As well as the basics, there is also an option to add linear time code to the equation via an optional SMPTE/EBU timecode reader/generator. Although not yet shipping, the chip should be available by the time you read this article.

With this addition to the system you're provided with ability to both read and generate Vertical Interval Time Code – VITC – and Longitudinal Time Code – LTC – in all SMPTE and EBU standards, which of course makes the system even more attractive in pro studio situations.

Due to the SMPTE option, twin phono LTC connections are provided as standard and simply require the addition of the time code chip to become active players in the board's I/O repertoire. Lastly GVP have also added an I²C remote control connection for video kit equipped with the appropriate data bus.

UPGRADE

Although expansion has been mentioned in relation to the board's optional SMPTE chip, SMPTE is only the beginning of the available upgrade options.

In a obvious attempt to court the pro market, an optional Comb filter can be added to the system allowing TBCPlus to split an incoming composite source from a camera, tuner or Laserdisc into separate chroma and luma signals, thereby allowing the board to process the signal as if it were a true Y/C input, resulting in a much improve output signal.

For those looking further into the future, GVP have also added a digital features bus and a video expansion bus. The plan is that these existing ports will allow the addition of direct-to-disk video recorders, 3D digital video effects generators, Jpeg non-linear editing systems, RGB/YUV transcoding as well as chroma, luma and linear keyers.

My only concern was GVP's track record for developing proprietary expansion ports which would obviously limit third-part support. However after conversion with GVP's Gary Nush and Letitia McMaster, I'm assured the buses aren't as proprietary as the manual would have me believe, and in fact most third-party hardware should work without modification – we shall see.

RAM expansion is another speciality of the board, with an option to add up to 8Mb of RAM – GVP's own brand of course. Although not tested the manual claims that thanks to GVP's DMA technology transfer times of 3.58Mb per second can be achieved – a figure far superior to normal Zorro II transfer.

Verdict: TBCPlus

For the serious enthusiast and pro Amiga videographer, I'd say TBCPlus is an absolute must in any production suite. As you can see, the video quality is exceptional while the additional features make it one of the most impressive special effect generators on the market.

The only extra I would have liked would be the ability to mix or crossfade between the various video inputs. As it stands, mixing between sources still demands a dedicated video mixer and a second TBCPlus.

However, leaving this minor grumble aside the fact remains that the product as it stands is probably the most important Amiga-based videographic advance of the year and GVP deserve a slap on the back in every department.

ImageFX on-line

Not surprisingly GVP have built in a good deal of affinity between TBCPlus and ImageFX. As a result TBCPlus appears in the scanners list and can be controlled directly from ImageFX for frame capture.

Basically all the control elements available in the Stillstore requester are repeated within ImageFX, so as you can see from the examples producing video compositions using two buffers and an Alpha is very straightforward.

As mentioned earlier, colourisation effects are ignored so you'll have to add them once the image has been imported, but as you can see the creation of weird effects isn't exactly difficult.

As for ease use there's no complaints whatsoever, specifically thanks to the board's ability to freeze the image prior to actual importation.

As a result you can sit back and repeatedly hit the freeze button until the best possible grab appears and then import, rather than grabbing direct, only to find the import isn't what you wanted.

SYSTEM ESSENTIALS

RED = Essential BLACK = Recommended

Zorro required
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The bottom line

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Zooz, Zool's girlfriend



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G015 - MEGABALL - A game that has received excellent reviews.
G016 - SIMPSONS - Televisions wacky family brought to life in this shoot em up construction kit game.
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G021 - MASTER OF THE TOWN - The aim of this game is to cause as much damage as possible.
G025 - DRAGONS CAVE - A dungeon master style puzzle game.
G026 - DOWN HILL CHALLENGE - Good ski simulater.
G028 - PIPELINE - Classic game but too fast on A1200/A4000 due to superior processor.
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G062 - DR. MARIO - Similar to a NES game of similar name but better graphics.
G063 - ASSAULT - This average game involves you shooting all the characters that pop up in the windows.
G064 - DEATH BINGERS IN SPACE - A Xenon style shoot em up.
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G066 - STARIANS - Bizarre platform game.
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G068 - PREMIER PICKS - Very unique football management game, very well presented.
G069 - BILLY BURGLAR - Dodge lights to escape from prison.
G070 - AMIGABOY - The n game Tetris is widely regarded at its best on the Gameboy. It has now been perfectly converted, with exact visual representation.
G071 - ACT OF WAR - A game of similar style to risk.
G072 - ADAMS FAMILY QUIZ - How much do you know?
G073 - PARACHUTE JOUST - Guide the skydiver to the ground.
G074 - CARD SHARP - Various card games.
G075 - JEWL - A brilliant game.
G076 - TOP SECRET - Sorry, can't tell you!!!
G077 - JELLY QUEST - This game by David McGuire was described by Amiga Power quote "It's a superior brand of PD puzzle game, and its looks can only be described as - dead lush!" It went on to receive a 4 out of 5 star rating.
G078 - VENUS INVADERS - Excellent new version of space invaders.
G079 - THE RIGHT WAY - A great lemmings clone.
G080 - SUPER PRIX - A birds-eye-view racing game.
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U191 - VOICE CLI V5.5 - This utility allows you to control CLI with speech.
U192 - ACCOUNT MASTER - Written in Amos this is a very popular business utility of excellent quality.
U193 - SOFTWARE LISTER - This program is designed to keep track of your software collection.
U194 - DISKPRINT V3.5 - An integrated database and disk label printing utility.
U195 - RACE V1.6 - A disk that will work out the chance of a horse winning a race.
U196 - DRAW MAP V4.1 - There are two versions, this is the 1MB version. It allows you to create 2D and 3D maps. Quote U296 for 2MB version, which comes on 2 disks.
U197 - FOOTBALL LEAGUE EDITOR V1.1 - As soon as the results come in, you can monitor your teams latest position.
U198 - GOLF SCORES V1.8 - It can record the results of every round you play, store them and give an overall electronic score.
U199 - ANTI FLICKER - An aid to stop the flicker in Hi-Res mode during some programs operations.
U200 - AMICASH BANKIN - If you have a small business, this program is the best of its nature and highly recommended.
U201 - PUNT PROGRAM - Another prediction aid for the horses.
U202 - MONEY MANAGEMENT - Home accounts package capable of handling up to 12 different accounts.
U203 - EASY CALC V1.0 - This spreadsheet is designed to be both very user friendly and fast. It has an excellent built in help system.
U204 - KEYBOARD TRAINER V1.1 - Best public domain typing tutor available at present.
U205 - M-CAD - Computer aided design program.
U206 - NO ERRORS - Hides the hard errors on disks making all your corrupt disks usable once again.
U208 - 203 UTILITIES - The most utilities ever available on a single disk.

UTILITIES

U209 - UNDELETE - This utility allows you to get back stuff that was accidently deleted from disk.
U210 - JOYSTICK TESTER - A brilliant joystick testing program.
U211 - RED SECTOR DEMO MAKER - A 2 meg version of the most popular utility ever!!! Create stunning demos/megademos/intros. The special thing is that it has been modified to work with the A500+ and even better the A1200. (2 drives rec. A1200)
U212 - AIBB V5 - A good diagnostic program.
U213 - SYS INFO V3.11 - A disk that will let you know the technical status of your machine.
U214 - ENGINEERS KIT - A diagnostic disk, specially suited for engineers etc.
U215 - DISK REPAIRERS - Will allow you to try and make all your unusable disks work again.
U216 - AMIGA DIAGNOSTICS - Solve thousands of amiga problems with this diagnostics disk.
U217 - LAST WILL AND TESTAMENT - Write your own will.
U218 - MUSIC BASE UTILITY - Store your record/video collection.
U219 - ERROR INFO - Gives you a list of all amiga error codes and their meanings.
U220 - PC TASK V2.02 - IBM PC emulater it allows you to run the majority of PC software with no additional hardware. Now supports VGA, EGA, CGA and MDA. (DV)
U222 - REPAIR-IT 3 - Contains a selection of disk and hard drive repairing utilities. Excellent for saving that vital file.
U224 - SPECTRUM EMULATER - This is the best and latest version of the most popular emulater for the amiga. There are 68020/030 versions for new AGA amigas.(2 disks)
U225 - STOCK ANALYST - This is a technical analysis and securities tracking program which calculates when to buy and sell shares.
U226 - ASTRONOMY V2.0 - A menu driven astronomy program that calculates information about the Sun, Moon and planets. Help disk.
U227 - MING SHU CHINESE ASTROLOGY - Will create horoscopes in seconds. The complete aid.
U228 - COLOURED ICONS - Transfer your disks into colourful, well presented works of art with this database.
U229 - KIDS PAINT - An art package simplified for the younger amiga owners.
U230 - STAR VIEW - This program is designed to show graphically the positions of the stars and planets from any part of the earth.
U231 - AQUARIUM - Turns your screen into an eye catching fish tank.
U232 - OCTAMED V2 - Latest version of the famous music package.
U233 - NUMPAD FOR A600 - A program that makes the A600 think its got a numeric keypad.
U234 - ADDRESS PRINT V3.1 - Very useful if you make regular postal correspondence.
U235 - IFF BOOT - Displays a picture whilst your hard disk boots up.
U237 - PAY ADVICE ANALYSER - A very useful program for keeping track of pay, tax and national insurance.
U238 - CANNON PRINT STUDIO - Got a Cannon printer? This disk is essential for brilliant results.
U239 - FANCY PRINTING DISK - Contains Banner, Graph Paper V1.2 and Disk Print V3.5
U240 - BBASEIII - An easy to use versatile, yet fully featured database. Greatly enhanced successor to bBaseII.
U241 - ADM V1.01 - Flexable address database with loads of great features.
U242 - LITTLE TRAVELLER V1.1 - This utility shows a world map and allows you to select any country for travel information. It then zooms in giving a close-up map with more information.
U243 - BANNER MAKER - Create spectacular printed banners.
U265 - PROTECTION - Keep unwanted users from playing with your amiga.
U266 - PARBENCH - Link up two Amiga's and communicate with each other.
U283 - TEXTENGINE V4.1 - Sent direct from author Nicholas Harvey, this excellent program has all known bugs fixed. Has 36,000 word spell checker.

EDUCATION

E001 - TOTAL CONCEPTS DINOSAURS - A book on disk appropriate for sensational Jurassic Park movie. Get it!!!
E002 - SCIENCE - Excellent learning aid to the difficult subject. (4 disks)
E003 - FRACTIONS AND SILHOUETTES - Good maths utility.
E004 - WORLD WAR 2 - Good history aid.
E006 - WORLD GEOGRAPHY - Very useful utility.
E007 - KIDS DISK 1 - Excellent reading utility.
E008 - LEARN AND PLAY 1 - For younger amiga users, very popular.
E009 - LEARN AND PLAY 2 - See above, usually ordered as a 2 disk set.
E010 - GCSE MATHS - Good, written by a teacher of the subject.
E011 - LANGUAGE TUTOR - French, Spanish, German and Italian.
E012 - AMIGAWORLD - This piece of educational software contains details on every country.

DEMOS

D004 - ARSEWIPE - Hilarious toilet role commercial.
D007 - FILLET THE FISH - Cartoon animation.
D019 - SIMPSONS SLIDESHOW - Pictures of televisions wacky family.
D023 - PUGGS IN SPACE - Another cartoon animation from the same person who brought you Fillet the Fish.
D025 - SAM FOX - Slideshow.
D035 - RUDE NOISES - Hilarious samples.
D036 - FAST CARS - Pictures of the worlds most exotic cars.
D074 - MADONNA LIKE A VIRGIN - Music put to naked slideshow of Madonna
D091 - SAFE SEX DEMO - Hilarious mixed samples.
D114 - NEIGHBOURS SLIDESHOW - Very old but still amusing pictures of the cast with drawn on special effects.
D121 - GIRLS ON FILM - Digitised animation.
D129 - SHOWERING GIRLS - Colour digitised slideshow.
D138 - WAR SIMULATER - Samples that could get you a day off school or work. Sounds of sickness and war. Try it down the phone!!!
D198 - BASIC INSTINCT - Digitised pictures from the film.
D199 - STRIP SLOT MACHINE

VIDEO ART

U026 - TV GRAFFIX - Loads of backdrops etc. for use with genlock. Also fonts for Dpaint. (2 disks)
U169 - HARLEQUIN VIDEO ART 1 - Excellent collection of backdrops of superb quality for use with genlock.
U171 - HARLEQUIN FONTS 1 - Loads of excellent Hi-Res fonts.
U172 - HARLEQUIN FONTS 2 - More of the above.

VIRUS KILLER

V001 - SUPERKILLERS - Highly recommended as it could save you ££'s. Essential for hard disk owners. With no virus protection you are putting your entire software collection at risk. Regular updates to keep in touch with all virus activity. Separate versions for AGA machines.
All our disks are virus free.

MUSIC

MD01 - MUSIC MODULES - A massive 10 disk collection of good quality music modules. All of soundtracker file type for use with RSI Demo maker, Noiseplayer and many other applications.

AGA SECTION

A019 TO A023 - WEIRD SCIENCE - Excellent quality pictures. (5 disks - available separately)
A024 - FIT CHICKS - A collection of girly pictures for the A1200 only. (2 disks)
A025 - FREAKS BODY SHOP - A small selection of girly pictures.
A030 - FERRARI PICTURES - Pictures of a new model from the worlds most exotic car maker. Good 256 colour pictures.
A036 - NIGHTBREAD - Many pictures drawn in 256 colours. (2 disks)
G042 - AGA TETRIS - Controlled with the cursor keys, this excellent conversion of probably the most addictive game ever is now available with 256 colour graphics.
G082 - AGA CHESS - An excellent game but you will need 4mb of ram to get it to work!!!
U001 - ULTIMATE BACKUP DISK - This compilation includes DCopy V3.0 which is probably the only copier that works successfully on the A1200/A4000.
U123 - WORKBENCH HACKS - Many useless special effects for workbench V3.0
U118 - MORE WORKBENCH HACKS - Guess what?
U255 - WB V3.0 INSTALL - If you need to install your hard disk then you need this.
U256 - A1200 DEGRADERS - An essential purchase for AGA owners. Includes Fake Fast Mem, The Degrader, Diskstart, Kill AGA V2 and Helpful hints.
U257 - VIEWTEK V1.03 - An essential purchase allowing you to display AGA graphics.
U258 - HDMEM - This utility allows your AGA machine to use your hard disk as virtual memory. If you've got a 80mb hard disk then you can have 80mb ram. Requires FMU, MMU etc.
U272 - WORKBENCH V3.0 SCREENS - Improve the appearence of workbench with these excellent backdrops.
D181 - TEAM HOI PLANNER GROOVE - This was the worlds first ever AGA megademo.
D195 - PANTARHEI - A new AGA megademo. With amazing sound, graphics and colours.
D197 - TEAM HOI 2 - Sequel to the first ever megademo.

ABOVE DISKS WORK WITH A1200/A4000 ONLY.

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FD07	FD08	FD09	FD10	FD11	FD12
FD13	FD14	FD15	FD16	FD17	FD18
FD19	FD20	FD21	FD22	FD23	FD24
		FD25	FD26		

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BILLBOARD Chicargo Arctic2
AvantGarde Cartoon
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NF3:	MUSIC 1... Rastaman, Drum It, Love & Pain, Tangled, Hit IT, Crystal Rain, Charming But Drunk
NF4:	DEMOS 1... Interference Demo, Kid Demo
NF5:	ART 1... Lorenzo Collereta 1: Creating II, Dreamboat, Welcome, Museum and more
NF6:	ART 2... Nocentinitiziano 1... Music Dream, My Objects, Spiral, Tizy, Volkswagen
NF7:	MODULES 1... Agrometrical Dream, Air, AJ Parker, A Born, Amelioration, A new guy in Town, Behind the Walls, Between, Captivated, Celtic
NF8:	MODULES 2... Boombass, Celstrial Music, Chicago, Cold, Command, Cool Crazy Comets, Cream of the Earth, Data Trains
NF9:	MODULES 3... Dawn, Deep Water, Deliance, Dense, Domination
NF10:	MODULES 4... Diner, Dotty Flower, Dream, Erano, Exodux, Experiment, Expressions
NF11:	MODULES 5... Fletch, Funeral, Funny 1 & 2, Go with Me, Helico, High Density, Hysteria, Klisje
NF12:	MODULES 6... Funny 4, Game Over, Jumping Jack, Like a Bird, London Flight, Lonely, Massacre, Met the Traveller, Moon
NF13:	UTILITIES 3... Addtolls v1.11, MPeg Play v1.03, IFF2ICON w1.0b
NF14:	UTILITIES 4... Alert Patch 2.19, Assign Manager v1.02, Crunchmania v1.9t
NF15:	UTILITIES 5... DOST race v2.10, Intel Inside Trashcan, Title Clock v2, Scheduler v1.0
NF16:	UTILITIES 6... MandelBrute v1.2, Promoter v1.8b, Syslog v1.7, TWC v3.23
NF17:	MUSIC 2... Real Motivation, Heaven, Over the Moon, Dance, Orange, Negative
NF18:	MUSIC 3... 1993, Alien, Bosvedjam, Elimination, Lizard Theme
NF19:	MUSIC 4... Blind, Desert, Game Tune iv, Gluther+
NF20:	ART 3... Oliselamp, Ballgame and Wampie
NF21:	ART 4... Earth, Fountain, La Patente, Tempio and more
NF22:	GAMES 1... Last Tetris, Wabes, Mine Sweeper

Games

1538	Act of War	Strategic game
1212	AGA Chess	The best req 4Mb
1537	Air Traffic Control	Land planes
1155	Antep	
1500	Arcade Classics 1	Various
1501	Arcade Classics 2	Various
941	Atic Atac	Like the Old Speccy
1251	Backgammon	The board game
1154	Battle of Britain & War	
1252	Battlecars II	Stunning Simulation
953	Battlements	Like HunchBack
1052	Beast	
1541	Blackjack Lab	Great card game
1510	Boulderdash	Dodge them Bricks
954	Cluedo	Yes that's right
1539	Coindrop	Fruit Machine sim
1254	Crazy Sue II	Brill Platform
1056	Crossword Creator	Great Fun
942	D-Tris	Tetris clone, great like rest
1576	Deluxe Pacman	Best Pacman
1253	Desert Storm	
1188	Downhill Challenge	Ski-ing
1131	E-Type II	Great Shoot-em-up
1092	Escape v3	Platform Type Game
1536	Extreme Violence	Violent
1577	Fighting Warriors	S/Fight
1153	Flag Catcher	Great Game + Anim
1175	Full House	Card Game V Fun
1503	Grand Prix Manager	Race Cars
1150	Hellzone	Brill Shoot-em-up
920	Hollywood Trivia	Questions!
955	International Cricket	
1296	Intruder Alert	Shoot-em-up
1172	Leedings	Like Lemmings
1578	Mad Bomber	Mad Game
1157	Mashie Niblick Golf	Golf
957	Maths Adventure	Education
1189	Megaball	Fantastic
1106	Mental Image Games 1	
1107	Mental Image Games 2	
915	Missile Command	Old Favourite
1570	Moria v5.4	Adventure Game
1650	Mouse Drive	Sim to SuperSprint
1295	Nostromo Game Cheats	
1297	Numerix	Like Scrabble but numbers
1152	Numpty & Alien Invaders	
1250	Peter's Quest	Adventure
1255	Pipe	Like the classic
956	Pipeline	Again
1190	Puggles	Enjoyable Platform Game
1055	Quadrix	Puzzle game
1057	Questiontort	
1670	Road to Hell	Great car Action
917	Rollerpede Invaders	
1205	Sanity	Great Arcade Shoot
934	Scrabble	The original
1151	Serene III	Shoot-em-up
1526	Smurf Hunt	Smurfs
1540	Soccer Cards	Football Man
908	Star Trek, 2 Disks	The best
1508	Super Space Invaders	
1050	Survivor	Strategy
909	Tanx	Blow up tanx, 2 player
948	Tetren	Tetris Clone, best
922	The Simpsons	With Bart
926	Think Twice	Mastermind
951	Total War	War Game
1177	Turbo Thrust	Classic
931	Wacko Jr Wonderland	
925	Wizzy's Quest	Platform
1187	XFI & Hball	Blockout
919	Zeus	Great Puzzle Game

Education

1579	Agraph V2	Create Graphs, Save IFF
1566	Algebra	Learn Algebra
1555	Amiga Tutorial	Tutorial for Amiga
1527	Amiga World	Details all major Countries
1058	Amigazer	Space enthusiasts
1168	Colour the Alphabet	For little kids
1507	Division	Aids Kids with Division
1159	Dunks DTP	Allows kids to print text & pics
791	Family History Database	Details
1287	Fireworks Alphabet	For kids
1531	Fractions	Aids Kids with Fractions
1509	GCSE Maths	Maths Tutor
1101	Henriettas Book of Spells	Great
1104	Hooray for Henrietta	Great
1514	Kids Paint	Kids Paint Proggy
711	Learn and Play (2 Disks)	Games for kids
957	Maths Adventure	Adventure in Maths
1580	Maths Drill	Mathematics Aid
1557	Maths Reflex Test	Test Your IQ
1504	Maths Wizard	Mathematics Aid
1581	Pair It	Game for Kids
1160	Simon & Space Maths	2 games for kids
1158	Story Land 2	A Story for Kids
1543	Total Concepts Astronomy	Brill
1542	Total Concepts Dinosaurs	Lots info
1169	Treasure Search	Basic Map skills
797	Typing Tutor	Try typing
1582	World War II Facts	Interesting
1583	Fast Facts	Info on our Universe

A1200/4000

1534	Action Replay IV	Ripper, Monitor
1553	A1200 Degraders	Degrades your 1200
1325	PC Task v2	Runs IBM Software
1546	Hois AGA Megademo	A great demo
1547	Hois AGA II Megademo	The Sequel
1212	Uchess 4Mb	Great Graphics 4Mb
1308	WB3 Backdrops	Backdrops for WB
1573	Dos Drivers	Various Dos Drivers
1588	Viewtek Latest	Great Pic Viewer
1554	WBVerlauf V2	Rainbow Workbench
1584	Spectrum Emulator 1.7	Sinclair
1283	The Disk Util	Formats, Copies
1215	AGA Pics 1, 24-bit graphics	Pics
1216	AGA Pics 2, 24-bit graphics	Pics
1217	AGA Pics 3, 24-bit graphics	Pics
1218	AGA Pics 4, 24-bit graphics	Pics
1210	Winblend	Fractal Generator
1300	HD Prep	Configures 1200 HDrives
1214	Jpeg Utils	Utils for JPeg Pics
1317	MSM 1.8	Brilliant System Monitor
1219	Battleaxe A1200 Utils #1	Utils
1585	Battleaxe A1200 Utils #2	Utils
1586	Battleaxe A1200 Utils #3	Utils
1587	Battleaxe A1200 Utils #4	Utils
1600	Mandelmania 4	AGA Fractals
1601	Klondike AGA (3 disks)	Great Card Game
1603	Motorola Invaders 2 (2 disks)	Great Invaders game
1604	Technotraks 2	Rave Demo
1605	No Point of Sale	1200 Specs Demo
1606	MagicWB	Create a stunning WB Setup
1651	2 Explicit Demo	AGA Demo
1653	Virtual Journey AGA	AGA Demo
1656	Origin AGA Demo (2 disks)	Great 3D action

AMFM Magazine

Amiga Musicians Freeware Magazine
The worlds number 1 music magazine.
Comes on disk, full of the latest gossip, utils, music both MIDI and Amiga only. If you are interested in music then you simply can not miss this.
Issue 16 – £2.50
All back issues available, please ask.

Catalogues

Battleaxe Catalogue – £0.50
Fred Fish Catalogue – £0.50
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Latest UGA Freeware Titles

LATEST NEWSFLASH FREEWARE

NF DISK 23 (ART 5) Jan Visscher 2
Modern Art, Simple Vision and Strange Place (HAM8 Pictures)

NF DISK 24 (ART 6) Lorenzo Colloreta 3
BodoBrain 2, Drawing Hands, Man 2, Snake 2, Timepasses 2, Torx 2 & WoodFishes

NF DISK 25 (MUSIC 5) S. Hannula 1
50 feet, close to 115 & Lion Rock

NF DISK 26 (MUSIC 6) M. Berthaud 1
Extemporized, Jump 4 Joy, Sonic City, Sweltering & Breakdown

NF DISK 27 (MUSIC 7) J. Valenkamp 1
Basix, HiScore, Just Something, Possibilities, StarDust & Guitar solo

NF DISK 28 (DEMOS 2)
RB1200, Mindriot & Intern

NF DISK 29 (UTILITIES 7)
ABackup v4.03 - ABCDirectory v3 - AssignManager v1.24 - AZap v2.10 - BootMan v1 - FileSystemInfo v1.1 - The Utility Pack #1 - MouseShift v2.1 - PackIt 37.100 v1 - VCLI V7.04 - ProcurePens & Setpens - Screen Color Requester

NF DISK 30 (UTILITIES 8)
ACalc v1.21 - ADoc2 v3.05 - CDTools v1 - Columns v2.6 - Filex v1.1 - PPrefs v1.1

NF DISK 31 (UTILITIES 9)
BootMan v1.1 - DiskSalv v2 - HFX 39.45 + 38.30 - MegaView v2 - StoneCracker v4.10

NF DISK 32 (UTILITIES 10)
AmiFlick v1.10 - CloseWB V1 - EdWord v4.1 - Inf v1.32 - LibraryTimer v1.1 - PMontre v1.1 - PowerSnap v2.2 - Promotor v1.9 - PS V1.34 - Scheduler v1.3

AMFM Samples

These sample disks are of excellent quality, they are £2.50 each and are produced by artists themselves.

Sample Disk 1
45 drums & percussion sounds from a Roland PCM Sound Card.

Sample Disk 2
58 orchestral winds including flutes, brass, saxes, trumpets, brass chords and ethnic winds.

Sample Disk 3
30 atmospheric non-instrumental death & horror sounds.

Sample Disk 4
32 selected lead & bass sounds from the Korg 707 Synthesiser.

Sample Disk 5
16 rich, full and dynamic grand piano sounds including chords. The best piano heard on an Amiga!

Sample Disk 6
48 characteristic samples taken from a Korg Wavestation. Mostly Lead bass etc.

Sample Disk 7
53 characteristic sounds taken yet again from the wavestation. Lead/bass effects.

Sample Disk 8
46 chords sampled from the Korg Wavestation, pads, choirs, synths, major, minor, sus2 etc.

Sample Disk 9
Korg M1 drums, 84 drums percussion sounds from the Korg M1 Synthesiser. All standard drum sounds, with hits, lasers, etc.

Sample Disk 10
A collection of ambient and hard hitting sounds created on the Korg Wavestation. Rave away.

Sample Disk 11
More ambient, hard hitting rave techno sounds, Great stuff.

Sample Disk 12, 13, 14, & 15 Available also!!!

AM/FM magazines are also available from BPD. And special disks, look at AM/FM box.

Business

1061	600 Business Letters	Yes 600
1556	Account Master	Keep up to date finance
1579	Agraph V2	Create Graphs, Save IFF
893	Amibase Pro	DataBase, Store Info
895	Amicash	Business Tool
800	Bankin	Business Tool
1551	Bbase III	New Database, support Mail Merge
796	Business Card Maker	Create B Cards
1589	LCD Calculator	Great Kids Calculator
799	Clerk	Accounts Package
839	DTP	Desktop Publisher
1562	File-O-Fax	Keep in Track, Organise
898	Flexybase Database	Another
780	Forms Really	Create Forms of all type
1515	Illinois Label Printer	Print Labels
1572	Invoice Printer	Prints Invoices
897	Last Will & Testiments	Examples
1164	Little Office	WPro, DBase in one
1124	Nag Diary	Great Diary, reminder
1523	Pay Advice	Business Tool
709	Spreadsheets	Table Sheet Calculation
1568	Text Engine 4	Text Editor
1320	Text Plus 4	Another good Text Editor
716	Wordwright	Word Pro

Misc/Utils

1552	A500 Plus Emulator	For WB1.3 users
1556	Account Master	Keep track of finance
1411	Amiga Guide v3.43	The latest distribution
1560	Amos Compiler Update 1.36	Update
1561	Amos Updator 1.36	Update
1003	Assassins Megaboot	Create great Bblocks
1042	Astro 22 Space	Astrology proggy
1528	Banner	Create great looking banners
1562	Benchmarks the Best	Test Amigas
1310	Cdisk, Hdrive compress	Like Dblspace
1550	Dcopy 3.1	Great disk copying program
1403	Disk Salv 2	Repairs bad disks
781	Dynamite Fonts 1	Dpaint Fonts
782	Dynamite Fonts 2	Dpaint Fonts
1002	Essential Utils III	Plenty Utils
1512	Fast Cache HD & FD Cache	Yes
1531	Fractions	For the kiddies
1535	Game Tamer 4.01	400 Game Cheats
1563	Gold Ed V.94 (2 Disks)	Great Editor
1519	Hybrid Instruments	Some great noises
1301	Imagine Objects	Ray Trace Objects
1124	Le Nag	A diary, reminder program
1506	Lockpick 2	Copies games, removes protection
1001	Med v3.2	Great Music Creation
761	Mega Utils	Some great utils
1564	Mr Backup	Hard Drive Backup proggy
1502	Ncomm v3	Great Terminal Program
704	North C	C Compiler
1511	Octamed	Like MED, with 8 Channels
1038	Picbase	Picture Storing DataBase
1059	Picture Coverters +	Graphic Converts
1565	Plasma Clouds AGA	Create Plasma
1571	PPshow Latest	Graphic Viewer
1284	Propage Utils & Genies	Handy indeed
1266	Protracker v3.01	Music Tracker
1525	Reorg Latest Ed	Optimise your Disks
1568	Dice C V2.06 (2 Disks)	C Compiler
1400	Superdark v2.01	Screen Blanker
1329	Supersound II	Sound Manipulation, sampler
1408	Term v3.4 (2 disks)	Best Terminal Proggy
1413	Terminus	Another Terminal Proggy
1564	Tools Manager Latest	Add menus to WB
1530	True Ed 5.5	Great Text Editor
1178	Twin Express	Amiga>PC>CD32, 2 Disks
1566	V Morph	Create Morph Anims
1191	VCR Filer	A Dbase for Videos
1567	Virus Checker v1.33	Don't Suffer
1610	Xbeat Pro V1.3	X-lent Drum Sequencer

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£3.00 ROW

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Introduction

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EST 1991

DEMOS

D1....Mental Hangover
D2....Intercepter Demo
D4....Wild Copper
D10...17Bit Music Demos
D11...World Demos 21
D13...Total Remix Demo
D14/15...Predators(2)
D20/21...Red Sector(2)
D24/25...New Tek Reel3(2)
D26...Total Remix 2 Demo
D27...T.V. Theme
D30...Epic Demo
D34...P.D. Collection
D36...Virtual Worlds
D37...Vectra Sinking Demo
D38...TFF Demo Voyage
D40...Safy Demo
D59...Video Effects 3D
D64...Cult Vector Dance 2
D68...Phenomena Demo
D70...Amos 3D Demo
D74...A Trip To Mars
D76...A2000 GenlockDemo
D81/82...Budbrain 1 (2)
D83...Budbrain 2
D85...Crionics Neverwhere
D87...pirhana demo
D101...Alcatraz M/Demo 3
D102...A Chaplin Demo
D103...Total Destruction
D105...Mr B Demo Comp 4
D106...Walter S.T. Demos
D111...Defcon 1
D117...Aurora M/Demo
D118...Cult M/Demo 2
D125...Precise Demo
D133...Fasination
D136...Goldfire Megademo
D137/138...So What (2)
D139...Devils"No Reality"
D144...The Silents "Ice"
D145...Crystal Symphonies
D148...Ray Of Hope 2
D149...No Brain No Pain
D158/159...Cyborg Demo(2)
D195...Coaxial Comp
D197...MC Disk 1 Coma
D199...End Of Century 1999
D206...Dreamers 3
D208...Avengers M/Demo
D216/217...Bass o Matic (2)
D218...Disorder Demo
D219...Tuff Enuff
D225...Cool Fridge Demo
D226...Hardcrack M/Demo
D233...Hypnautic Hammer
D235...Six Of One Demo
D238...Planetside
D239...Lemmings Revenge
D240...Total Respray
D243...Budrain 3
D244...Phenomena Inerspace
D245...Total Retrial
D247...Pulling The Trigger
D253...CES Demos
D256...Total Recount
D257...Total Rebate
D262...Spasmolytic
D264...D-Mob M/Demo
D267...Sun Connection 2
D270...Kefrons The Wall
D271...Timex Hydra
D272...Electric Demos 1
D274...Defpackers Demo
D276...Cave La Weird
D279...Iraqui Demo
D280/281...Delerious (2)
D307...L.S.D. Demo
D312...Devils Colours
D314...Trakmo
D315...The Groove Ramjam
D325/326...Real Empathy(2)
D328/329...Red Dwarf (2)
D330...Darkness M/Demo
D332...Melted Experience
D333-337...Odyssey (5)
D340...Watchman Demo
D341...Anarchy Smoker Co
D342...Ed 209 The Revenge
D343/344...Hardwired (2)
D346...Wildfire M/Demo
D347...Mindwarp M/Demo
D348/349...Skizzo Demo(2)
D350-352...Treacle Team(3)
D358...Mr Men Stories
D359...Seeing Is Believing
D360...State Of The Art
D361...Mayday Resistance
D362/363...Jesus On E's (2)
D364...Fish Tank
D365...Optimum Pressure
D366...Mind Riot
D367...In The Can Demo
D368...Dynamic Illusions
D369...Piece Of Mind
D370...3D Demo 2
D371...Lethal Exit
D376...World of Commodore
D377...Claustraphobia
D380...Hoover Demo
D381...The Trip
D382/3...Project Techno (2)
D384...Interspace
D386...Mindwarp (AGA)
D387...Panta Rhei (AGA)
D388...Hysteria
D393-5...Grapevine 15 (3)
D396-8...Grapevine 16 (3)
D399-401...Grapevine 17 (3)
D402...In The Kitchen

UTILITIES

U1...Games Music Creator
U21...The Comms Disk
U32...Modem Utils
U34...Red Devils Utils 1
U35...Soundtracker Special
U38...Paint,Music,Media
U39...Card Designer
U41...Red Devils Utils 4
U43...Future Composer
U44...Kefrons Makeboot
U45...P.E Giant Utils 168
U47...Label Designer
U49...Ultimate Icon Disk
U50...Power Comp Utils
U51...Jazz Bench
U55...Visicalc
U57...Quickbench
U59...Font Designer
U60...D-Paint Fonts 1
U61...D-Paint Fonts 2
U62...Med 3.20
U63...Direct Anim Creator
U64...Crossword Designer
U66...CLI Help + Others
U67...S/Tracker Mega
U68...Ultimate Boots 1
U69...Ultimate Boots 2
U73...Powerlogo
U74...M-Cad
U75...Journal Home Acc's
U76...Home Utilities
U77...Electrocad
U78...Ami Base
U81...Bootbench V2.0
U82...Slideshow Maker
U83...Catalog Workshop 1
U84...Catalog Workshop 2
U87...Hard Disk Utils
U89-94...Amateur Radio (6)
U95...C-Light + Others
U96...GFX Utils 1
U100...Ham Lab
U101...Sid V2.0
U108...A-Gene
U113...Midi Utilities
U118/119...Video Utils (2)
U132...GFX Utils 2
U133/134...North C (2)
U136...CrossDoss (demo)
U138...Squid Squad Utils
U139...Terminalities V1.0
U140...Squash 1 (2.04 only)
U141...Squash 2 (2.04 only)
U142...Text Plus 3
U144...Dennis Samples 1
U145...Digital Intro Design
U146...Viz Clip Art
U147...Spectrum Emulator
U151...Slipstream V/Killers
U152...Red Devils Utils 6
U154...Amigafox W/P
U155...P.D Utils Docs Disk
U163...Quickbench + (2.04)
U164...Rim Database
U166...Dennis's Hack Disk
U167...Demolisher Utils
U168...Home Business 3
U172...Squelch (1.3 only)
U176...GFX Utils 3
U177...Star Charts
U179-180...Dice (2)
U181...Celtic Demo Maker
U186-206...Track Ins 10-30
U207...Icon Collection 1
U208...Dave Jones Fonts 1
U211...Chemesthetics
U212...Animated Pointers
U213...Desk Top Publisher
U215...Messy Sid 2
U216...Master V/Killer 2.2
U218...Data Base Wizard
U223...Ten Pin Data Base
U224...Q-Base Data Base
U226...Games Solutions 1
U231...D-Paint Fonts 3
U235...Ami Cash V1
U238...Iconmania
U240...Icon Editor
U252...Opticomms 2.0
U254...New Superkillers 2
U255...Protracker v2.0
U256...Atari ST Emulator
U258...D-Copy 3
U262...PC Emulator
U273...Vidi Fonts 1
U274...Illinoi Labels
U275...600 Business letters
U278...Invoice Printer
U283...Headline Fonts
U289...Amos Updater
U290...Kickstart 2.0
U293...Black Tiger Utils 2
U294...Text Engine V4.0
U296...Ultimate Disk Crea
U297...10 PD Copiers
U298...Protracker V3.0
U299...Address Print V3.1
U303...Game Tamer
U308...Music Base V1
U309...PP Minicrunch
U311...Vmorph V2.30
U313...Pro Astrology
U314...Pools Wizard Jr
U319...Lister V2.1
U320...Garden Designer
U327...Bezier Surf
U329...Music Engine V3.4
U330...Starview
U331...X-Beat Pro
U332...Superview V2.4

GAMES

G1...Return To Earth
G2...Games comp 5
G3...Dizzy Lizzy
G4...Scum Haters
G5...Parachute Joust
G6...Frantic Freddie
G8...Twintris
G9...Psuedo Cop
G10...Drip
G11...Bug Bash
G12...Asteroids
G13...LLamatron
G14...Escape From Jovi
G15...Moria Adventure
G16...Ground Attack
G17...Megaball
G18...Insiders Club
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G27...The Tennis Game
G28...Flaschbier
G29...Buck Rogers
G30...Greyslayer
G31...7-Tiles
G32...Mega Comp 1
G33-34...Star Trek 1 (2)
G35-37...Star Trek 2 (3)
G38-39...Mechforce (2)
G40...Klondyke
G42...Car
G43...Games Comp 2
G44...S.E.U.C.K. Games
G45...Sacc Games Comp
G46...Games Comp 3
G48...Rays Game Disk
G49...Games Comp 4
G50...Games Comp 6
G51-52...Trucking (2)
G53...Jetpac
G55...Quick And Silva
G56...Miniblast
G57...Lamer Game
G58...Games comp 7
G59...Games comp 8
G60...Pom Pom Gunner
G61...Caverunner
G62...Crystal Caverns
G63...Intact
G64...Eternal Rome
G65...Lemmingoids
G66...DownHill Challenge
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G68...Paranoid
G69...Puggles
G70...Chainsaw Death
G71...Pirate Pete's Treasure
G72...Serene 2
G73...Dynamite Dick
G75...Card Games 1
G76...Wizzy's Quest
G77...Growth
G78...Skate
G79...Atic Atac
G80...Napoleonic Sim
G81...Project 1
G82...Lazer Zone
G83...Lemmings Pack
G84...Star Trek S.E.UP
G85...Lettrix
G87...Matched Pairs
G89...Snake Pit
G90...Zeus
G92...Blizzard
G93...The Maze Game
G94...Subculture
G95...Hollywood Trivia
G97...Shootout
G99...Holy Grail Adventure
G100...Amos Coindrop
G101...Classic Comp 1
G102...Card Games 2
G103...Super Skoda Chall
G104...Grand Prix Sim
G106...Computer Conflict 2
G107...Mission X Raid 2
G108...NU Game
G110...Tricky + The Turn
G111...Marble Slide
G112...Games Comp 10
G113...Black Jack Lab
G114...Dungeon Of Madroj
G115...Amiga Columns
G116...Robocop In Iraq
G117...Mutant Camels
G120-122...Warlock (3)
G124...Bart Simpson
G126...Air Ace 2
G127...Breakout Con Kit
G128...Pipeline
G129...Dung Of Doridian
G132...Peters Quest
G133...Star Trek 3
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G135...Door To Door
G143...Solid Quad
G144...Omega Race
G145...Mission X Raid 3
G146...Trek 73
G147...Wack In Wonderland
G148...Squats Revenge
G149...Sky Fight
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G161...E-Type
G162...TomCat
G163...Sea Lance
G164...Dizzy Diamonds
G165...No Mans Land
G166...Word Square Solver
G168...Cross Fire
G169...Wastelands
G170...Space Blitz
G171...Crazy Sue
G172...Make A Break
G173...Squamble
G174...F-1 Challenge
G175...Othello
G178...Evil Dead Game
G179...Trainset
G180-181...P Comps 1+2
G182...Diplomacy
G183...Tractor Beam
G184...Motor Duel
G185...Game Boy Tetris 2
G186...Water Works
G187...Act Of War
G188...Mutants Games
G189-193...Timelords 1-5
G194...Nirvana
G195-196...Neighbours (2)
G197...Amoeba Invaders
G198...Game Boy Tetris 1
G199...Tetren
G200...Battlecars 2
G201...Dr Mario
G204...Ashido
G205...Cheats Disk 2
G206...Cheats Disk 3
G208...Airport
G209...F.R.A.C.
G210...The Golden Fleece
G211...Legend of Lothian
G212-214...Timelords 6-8
G215...Amos Games 1
G216...Super Sid
G217...Light Bikes
G218...Relayer
G219...Air Hockey
G220...Amos Child Quiz
G221...Texas Chainsaw
G222...Roulette
G223...Premier Pics
G224...Thrust Duel
G225...Wibble Giddy
G226...Super Pong
G227...Fruit Salad
G228...Brainbow
G229...Jeopard
G230...Space Invasion
G231...Karate Worm
G232...Super League Manager
G233...PD City Comp 1
G234...Colour Changes
G235...Battle Of Britain
G236...Super Twintri
G237...Castle
G238...Numtris (+ Only)
G239...Kung Fu Charles
G242...Micro Market
G243...Bload Runner

SLIDES

S1...Ham Pics Show 1
S4...Madonna slides
S5...Moviestar slides
S6...Party Disaster
S8...Immaculate Collection
S9...Simpsons Slides
S10-11...Channel 42 (2)
S12...Bruce Lee Slides
S14...Adams Family
S15...Viz Mag Slides
S17...Docklands Jarre
S18...Dr Who Demo
S20...Nasa Slides
S22-24...WWF Slides (3)
S27...Demons Slides
S28...Total Recall
S29...Joe's Slides
S30...Ham Pics Show 2
S32...Neighbours Slides
S33...Roger Dean slides
S34...Iron Maiden Slides
S35-36...Tobias Richter (2)
S38...Basket case 2
S39...Eces Slides
S40...Fraxion Devine 2
S41...Fraxion Devine 1
S42...Golems Gate Slides
S43...Chainsaw Slippers
S44...Cry For Dawn
S45...Forgotton Realms (2)
S47...Kick Off 3 Slides
S48...PD Slideshow
S49-52...Terminator (4)
S53...Robocop 2 Slides
S54...Trackmaster Slides
S55...Forgotton Realms 2
S56...Garfield Slides
S57...Pawnbroker Slides
S58...Hellraiser Slides
S59...Night Breed Slides
S60...Raytracing
S61...Horror Slides
S70...Muscle Mania
S71...Creature Comforts
S72...The Wonder Years
S73...Watership Down
S75...Ferrari 348 Pics
S76...Belinda Carlisle
S77...Cher Slides
S79...Freddies Dead
S80...Wendy James Slides
S81...The Invisible World
S82-83...Terminator 2 (2)
S84...Fantasy Pics
S85...Gulf War Slides
S86...Magical Pics
S88...Gulf War Tribute
S89-90...S/Thing Fishy (2)
S91...Eldorado Slides

ANIMS

A1...Probe Sequence
A2...Ghost Pool
A3...Jogger + Magician 1
A4...Gymnast Demo
A5...Fractal Flight
A6...Basketball Demo
A8...Walker Demo
A9...Magician 2
A10...Pugs In Space
A11...Luxor Teenager
A13...Juggler Demo
A16...Cool Cougar
A17...Mono Cycle Anim
A18...Robocop Anim
A20...Mayhem On Wheels
A21...Jugette 2
A22...Shuttlecock Anim
A23...T-Pot Anim
A27...Fleet Manouvre
A28...Billiard Anim
A29...E/Prise Leaves Dock
A30...Starwars 2 Anim
A31...Star Trek Anim
A32...Fraxion revenge
A34...Madonna Anim
A35...Stealthy Anims 2
A36...Raiders Of The L/Ark
A37...Bugs Bunny Show
A38...Iraq V's UK Anim
A39...Mike Tyson anim
A42...Walker 2
A43...Walker 3
A45-46...Light Cycle (2)
A47...Exploding Head
A48...Police Car Chase
A49...Top Gun Demo
A50...Animators Demo
A51...5 Ways To Kill a Mole
A52...Another 5 Ways
A53...Batman The movie
A54...3D Spaceship
A55...Mr Potato Head
A59...Low Level Flight
A63...Amy V's Walker
A64...Real Pinball Anim
A66...Porky Pig Anim
A67...Adventures Of Chuck
A70-71...Max Overdrive (2)
A73...Spaceshuttle Anim
A74...Ghostbusters + Horse
A76...Alarm Anim
A77...Flight Anim
A78...Piano Anim
A79...Dart Anim
A80...Bad Bird Anim
A81...Holiday Anim
A82...Fillet The Fish
A85...Miners Anim
A86...Pocket Watch Anim
A90-93...The Movies 2 (4)
A95...My TinToy
A96...T-Pot 2 Anim
A99...Terminator 3
A100...Dolphin Dreams
A101/102...Thunderbirds (2)
A103...History of Amy
A104...Pogo Anim (2 Meg)

EDUCATION

E1...Education Pack 1
E2...Education Pack 2
E3...Education Pack 3
E4...Education Pack 4
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Keep reading *Amiga Computing* for the latest book reviews and updates for the choice books to spend your hard-earned cash on. Good luck...

The Insider Guide to the A1200

Author: Bruce Smith

Publisher: Bruce Smith Books

Price: £14.95

Already a best-seller, *The Insider Guide'* is a valuable tome well worth the asking price. By using simple step-by-step tutorials, the book takes the reader by the hand, showing the various basics of the machine.

From MultiView and copying files to Intellifonts and configuring sounds, the *The Insider Guide'* is a non-threatening book packed with useful info.

Amiga – Next Steps

Author: Peter Fitzpatrick

Publisher: Bruce Smith Books

Price: £14.95

This picks up from where the Bruce Smith's book left off. Twenty-two chapters cover a varying amount of topics from Amiga DOS, printing and the contents of the Workbench disks to even a few helpful hints on game playing.

There are a few slips along the way with a rather short-sighted approach to hard drives and their reformatting but on the whole, like its forefather, this is a simple to use and understandable sequel and even features a section on how to remove coffee once spilt on a keyboard. Now that's what I call practical.

Amiga 1200 Beginner's Pack

Author: Various

Publisher: Bruce Smith Books

Price: £39.95

Reviewed last month in this very magazine, the Beginner's Pack compilation features the two above books, a 60-minute video and four disks of PD and shareware software. The video is an extremely basic guide to the very fundamentals of Amiga 1200 operation – explanations of the keyboard and the ports at the back are absolutely ideal for the utter novice technophobe.

After viewing the cassette, the two books fill in the main bulk of the package and as described above, are about as good as you can find at present. The disks feature a variety of utilities and programs for your perusal once familiar with the basic setup of your machine.

A word processor, clip art, music editor, virus checker and other handy items are included, making the *Amiga 1200 Beginners Pack* good value for money. Recommended.

Denny Atkin's Best Amiga Tips And Secrets

Author: Denny Atkin

Publisher: Compute Books

Price: £18.75

Not structured in the same way the Insider's Guide is, Denny Atkin's book is still a worthwhile purchase for all kinds of tips and advice on the Amiga's more hidden functions. Written in an easy if a little over-Americanised tone, this is an ideal reference book to dip into from time to time with the only real negative being the price.

Also recommended...

Mastering Amiga Amos **by Phil South is another solid book ideal for budding enthusiasts of this very popular language. Priced £19.95 and available from Bruce Smith Books, this receives high marks for content.**

Mastering Amiga DOS 2 Volumes 1 & 2

Authors: Smith & Smiddy

Publisher: Bruce Smiths Books

Price: Vol 1 – £21.95 Vol 2 – £19.95

These two books give a full run-down of Amiga's operating system. The first volume forms an extensive tutorial to help the struggling beginner to get up and running and by the end, you'll be a whole lot wiser.

The second tome acts a reference book for the first, featuring commands and examples to extend the user's knowledge. While the A1200 uses v3 of DOS, these are still highly useful and there is a volume for v3 if so desired in the form of another reference book.

However you look at it, these will help your understanding of the Amiga Shell immensely, and come highly recommended.

Mastering Amiga ARexx

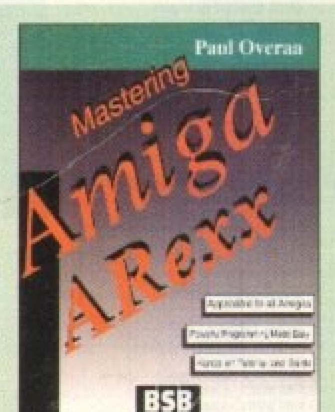
Author: Paul Overaa

Publisher: Bruce Smith Books

Price: £21.95

Even though you might not know what on earth ARexx is at the moment, I'm sure that you'll delve into it at some stage.

ARexx is the Amiga version of Rexx, a programming language that Commodore has made part of Workbench. While being a specialised area, ARexx is a useful language to know and this book, while on the expensive side is, written by an author who obviously knows it like the back of his own hand. The guide takes the reader through installing ARexx and its more prominent features while comparing it to the likes of Basic with various programming examples.



Make no mistake, this is a sturdy, heavy going book on the whole but well worth the time invested in it especially seeing that the instructions that Commodore provide are so... well... cack.

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- BU415 **AMIGA DIARY v1.13**
- BU416 **PAYROL**
- BU417 **EASYPRINT** (1.3 only)
- BU418 **PERSONAL ADDRESS BOOK** (Password)
- BU419 **PERSONAL JOURNAL** (Secret Diary)
- BU420 **WOMBLE VOL 1** Database etc.

HOBBIES

- H 88 **CROSSWORD DESIGNER**
- H148 **A-GENE** Family history
- H175 **GOLF RECORDER v 1.04**
- H202 **ROAD ROUTE USA**
- H214 **FOOTBALL LEAGUE EDITOR**
- H247 **CALORIE BASE** For recipies
- H250 **DARTS LEAGUE D/BASE**
- H298 **CULT TV VOL 1** TV series info
- H299 **WHOM 2** Data on TV progs.
- H302 **LAST WILL & TESTAMENT**
- H305 **ASTRO 22 v 3.5** Latest astrology
- H307 **FAMILY-HISTORY D/BASE**
- H310 **TEN PIN BOWLING D/BASE**
- H333 **AMIGA PUNT** Horse racing
- H336 **PERM CHECK v1.0** Pools predicter
- H342 **STITCHERY** Cross stitch work
- H359 **RACE RATER** Horse predicter
- H360 **QUESTION ATORT** Quizmaker
- H361 **NEW BIORYTHMS** Excellent prog.
- H362 **WINE MAKERS D/BASE**
- H363 **CYCLING M** Useful
- H364 **DARTS MACHINE** Score recorder
- H365 **AMYGEN** Family history
- H366 **POOLS WIZARD** Demo
- H367 **MING SHU** Chinese Astrology
- H368 **ASTRONOMY 2** Data & graphics
- H369 **AMERICAN FOOTBALL** (2 Disks) Rules
- H370 **LANDSCAPE GARDENING**
- H371 **GENEOLOGIST** WB2 and above
- H372 **TOP OF THE LEAGUE** Football Manager
- H373 **COURSE FORM** Horse racing
- H374 **FORECASTER** Horse race predictor
- H375 **STARVIEW** Astronomers
- H376 **CODE MUNGUS v5.7** Highway Code
- H377 **FOOTBALL FORECAST DEMO**
- H378 **BON APPETITE** Recipe database
- H379 **POOLS TOOLS 2** Pools progs.
- H380 **SEE THE AURA** (2 disks) human aura
- H381 **PHOTOGRAPHY** About the Dark Room
- H382 **DSOLVE CROSSWORD** Solve them
- H383 **PROFESSIONAL BINGO**
- H384 **WORD UTILITIES** Word puzzle solver
- H385 **KITE SIMULATOR** Fly your kite!
- H386 **POOLS WIZARD JUNIOR V1.0**
- H387 **SPIDERSOFT UTILS** Garden Designer
- H388 **GENIE** Family History
- H389 **STOCK ANALYST** Stocks & Shares
- H390 **WHOM 3** Part 2
- H391 **WHOM 3** Part 3
- H392 **TAROT** (2 disks)
- H393 **KNIT** Create patterns
- H394 **GOLF GURU V1.2** Keep golf scores
- H395 **FOOTY V1.4** Football League Editor
- H396 **DIVIDEND WINNER** Football

COMMUNICATIONS

- C 25 **COMMSOFT** Needs C26
- C 26 **COMMSPANION** Needs C25
- C 62 **AZ-COMM** Modem programme
- C222 **JR COMM v1.02** For modems
- C249 **TERM II v1.1** Comms prog WB2/3
- C303 **OPTI COMMS** Inc.N Comm 2
- C347 **SATELLITE TRACKER**
- C357 to C382 **AMATEUR RADIO 1 - 26** (26 disks) send for details
- C383 **N COMM v3.0** Latest
- C384 **BBBBS** (3 disks) Bulletin board system
- C385 **TERM v3.4** (2 disks) WB2/3
- C386 **SPOT** Fidonett util
- C387 **TERMINUS** JR Comm 2

VIRUS HELP

- VH 44 **MASTER VIRUS KILLERS v2.0**
- VH 93 **WARRIORS VIRUS KILLERS**
- VH218 **NEW SUPERKILLERS v2.5**
- VH235 **BOOTX V4.45** WB 1.3/2
- VH312 **LINK VIRUS DETECTOR**
- VH409 **EXTERMIN 8**
- VH411 **VIRUS Z v3.07**
- VH413 **ANTICICLOVIR v2** Link virus detector
- VH414 **VIRUS CHECKER v6.33**
- VH415 **SUPER VIRUS KILL** WB 2+
- VH416 **TRONIC VIRUS KILLERS**
- VH417 **VIRUS Z II** WB 2+

EDUCATION

- E6 **LEARN & PLAY** (2 disks) Early learning
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- E10 **TYPING TUTOR**
- E11 **KIDSPAINT**
- E13 **STORYLAND 2** Save toyland
- E14 **TC ASTRONOMY** Book on a disk
- E15 **TC DINOSAURS** Learn about them
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- E18 **TRANSLATOR** Spanish, French, Italian
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- E259 **PLOTTER v3.90** 2 dim math plots
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- E346 **4 STROKE ENGINE** Anim.
- E347 **STEAM ENGINE** Anim.
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- E350 **EVO** Evolution of man
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- E352 **GCSE MATHS**
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- E369 **KIDS DISK 2** – Learning
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- E374 **WORD FACTORY** Spelling
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- E376 **KIDS DISK 4**
- E377 **OUR SOLAR SYSTEM**
- E378 **PLANETARIUM**
- E379 **KIDS DTP 2**
- E380 **KIDS DTP EXTRAS**

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- EM 87 **SPECCY + 40 GAMES** 1.3 only
- EM141 **IBeM** PC emulator
- EM143 **ST EMULATOR** 1.3 only
- EM149 **C64 GAMES DISK 1** use with
- EM150 **C64 GAMES DISK 2** emulator
- EM215 **A64 EMULATOR v2.0*** (2 disks) Latest C64 emulator
- EM306 **MS-DOS PROGS FOR PC TASK** (8 Disks)
- EM324 **KICKSTART 2** 1.3 users get this!
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- EM400 **KICK 1.4** (Wb 2 & 3 only) Degrades to Kickstart 1.3
- EM410 **DEGRADER** Degrades to 1.3
- EM412 **FAKEMEM** Degrades to 1.3/512k
- EM413 **KILL AGA v2** Turn off AGA chipset
- EM414 **KICKSTART 3 EMULATOR** Upgrades WB2
- EM415 **PC TASK v2.03**
- EM416 **SPECCY EMULATOR v1.7** All Amigas
- EM417 **S KICK** Switch WB 3.0 to 1.3
- EM418 **Z KICK** A600 emulator
- EM419 **DATASETTE 64** Transfer C64 progs
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- HD399 **BACKUP**
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- PD328 **PRINTER DRIVERS UPDATE 3**
- PD335 **PRINTER DRIVERS** Canon BJ10e
- PD358 **CANON PRINTER DRIVER** BJ130 etc
- PD407 **PRINTER DRIVERS** Star/Epson/Pan/HP
- PD408 **HP550C Printer Driver**
- PD409 **HP PRINTER DRIVERS**
- PD410 **PROF PRINTER DRIVERS**
- PD411 **STAR PRINTER DRIVERS**
- PD412 **CANON STUDIO**
- PD413 **STAR STUDIO**

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- CP257 **FREE COPY v1.8** Removes protection
- CP313 **NIB v2.0** Removes protection (1.3 only)
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- CP341 **COOL COPIER v2.0** Fast & safe
- CP348 **ASI DISK COPIERS** Collection
- CP349 **LOCK PIC 2** Removes protection
- CP350 **D COPY v3.1**
- CP351 **MAVERICK COPIER** Rem. protection
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- CP354 **THE DISK UTIL** WB2+
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- CP356 **SUPERDUPER v2.02**
- CP357 **BAD FORMAT** Run Bad disks
- CP358 **COPIERS UNLIMITED**
- CP360 **DISKMATE** V.Good (WB2.04+)

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- PR 47 **C LANGUAGE MANUAL** (3 Disks)
- PR 49 **C LANGUAGE COMPILER**
- PR 72 **PASCAL LANG PROG**
- PR 94 **POWER LOGO v1.0** Lisp & Logo
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- PR118 **BC-FORTRAN**
- PR166 **AMIGA CODERS CLUB** (6 Disks)
- PR225 **CURSOR COMPILER** Basic language
- PR239 **DME V1.45** Programmers Text Editor
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- PR357 **EZASM** Assemblers
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- PR368 **PCQ SHELL** Pascal Compiler
- PR369 **'C' LANGUAGE MANUAL v2.0** (4 disks)
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- GU219 **TV GRAPHICS** (2 Disks)
- GU226 **GRAPHIC UTILS**
- GU227 **REAL 3D FONTS**
- GU228 **REALTIMES** (2 Disks) 3D Pics
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- GU245 **BOOTPIC V1.2**
- GU246 **CLIP-ART PORTFOLIO** (15 disks)
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- GU265 **SCANNES CLIP-ART** (3 Disks)
- GU266 **PG CLIP-ART**
- GU268 **EXILE FONTS**
- GU269 **DYNAMITE FONTS**
- GU270 **FONTS & SURFACES**
- GU272 **CLIP-ART COLL** (8 Disks)
- GU273 **CLIP-ART VOL 1** (7 Disks)
- GU274 **FONTLIB**
- GU276 **SOMETHING FOR NOTHING 1**
- GU277 **SOMETHING FOR NOTHING 2**
- GU279 **DYNAMITE FONTS 2**
- GU280 **HACK FONTS 1** (2 Disks)
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- GU284 **COSMOPOLITAN FONTS 2**
- GU285 **COSMOPOLITAN FONTS 3**
- GU286 **COSMOPOLITAN FONTS 4**
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- GU319 **PAGESTREAM 2.1 FONTS** (5 disks)
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- GU321 **MAGNETIC PAGES V1.3**
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- GU323 **COMPUTEREYES FONTS PACK 2**
- GU324 **COLOURED ICONS**
- GU325 **GRAPHICS RIPPER**
- GU362 **DIRECT ACTION** Anim creator
- GU363 **M.A.K.** Mandelbrot adv kit
- GU402 **FREE PAINT** Copy of DPaint
- GU403 **VIEWTEC v1.02** AGA graphics display
- GU404 **FONTS DISK 1** Large & small
- GU405 **DIGI FONTS** Good variety
- GU406 **COLOUR FONTS 1** Modern, Olde, Pica
- GU407 **COLOUR FONTS 2** Marble, Rocks, Grids
- GU408 **COLOUR FONTS 3** Dimond, Eye, Sun
- GU409 **COLOUR FONTS 4** Digi/Font brushes
- GU410 **COLOUR FONTS 5** Cinnam 8, 16 etc
- GU411 **COLOUR CLIP-ART** Hi/Med/Low for DTP
- GU412 **COLOUR CLIP-ART** Animals
- GU413 **CLIP-ART** Animals B&W IFF
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- GU415 **CONTACH CLIPART 2** Buildings, Xmas
- GU416 **CONTACH CLIPART 3** Signs, Teddys, Work
- GU417 **GRAPHICS TOOLS 2**
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- GU423 **THE DESIGNER** Arcade backgrounds
- GU424 **RJ UTILS** Perfect Paint, Image W/Shop
- GU425 **FONT FARM 3**
- GU426 **FONT FARM 1**
- GU427 **FONT FARM 2**
- GU428 **VIEW 3.2** Anim Player
- GU429 **HAM LAB PRO v2.08** Picture Converter
- GU430 **ICONS GALORE**
- GU431 **STILL STORE**
- GU460 **QUICK GRAB** AGA
- GU462 **POST** Postscript interpreter
- GU463 **POST SCRIPT FONTS 1**
- GU464 **POST SCRIPT FONTS 2**
- GU465 **POST SCRIPT FONTS 3**
- GU466 **GELIGNITE FONTS 4**
- GU467 **ULTRAPAINT**
- GU468 **ARTISTIKS** Art package
- GU469 **BLUE ROSE FONTS 1**
- GU470 **BLUE ROSE FONTS 2**

SUPERB QUALITY CLIPART

- GU326 **ART 1** (2 Disks) Weddings
- GU327 **ART 2** (2 Disks) Houses
- GU328 **ART 3** (3 Disks) Religious
- GU329 **ART 4** WWII Aircraft
- GU330 **ART 5** (2 Disks) Men
- GU331 **ART 6** (2 Disks) Women
- GU332 **ART 7** (2 Disks) Kids
- GU333 **ART 8** Business
- GU334 **ART 9** Office
- GU335 **ART 10** Students
- GU336 **ART 11** Sale
- GU337 **ART 12** (3 Disks) Christmas
- GU338 **ART 13** (3 Disks) Punch
- GU339 **ART 14** Animals
- GU340 **ART 15** Cats
- GU341 **ART 16** Silhouettes
- GU342 **ART 17** (2 Disks) Schools
- GU343 **ART 18** Babies
- GU344 **ART 19** (2 Disks) Sport
- GU345 **ART 20** Olympic
- GU346 **ART 21** (2 Disks) Medical
- GU347 **ART 22** Sea Life
- GU348 **ART 23** Decorative Mooths
- GU349 **ART 24** Whacky (funny)
- GU350 **ART 25** Holidays
- GU351 **ART 26** (2 Disks) Old banners
- GU352 **ART 27** Art Nouveau flowers
- GU353 **ART 28** Butterflies
- GU354 **ART 29** (2 Disks) Food & kitchen
- GU355 **ART 30** Colouring book (DPaint)
- GU356 **ART 31** Borders (DTP) (2 Disks)
- GU357 **ART 32** (2 Disks) MAC clipart
- GU358 **ART 33** Hornback (scenic)
- GU359 **ART 34** (2 Disks) Teddy Bears
- GU360 **ART 35** (2 Disks) Vanity Fair (fashion)
- GU361 **ART 36** Halloween (weird)
- GU364 **ART 37** Showtime (dancing etc)
- GU365 **ART 38** Vegetarian
- GU366 **ART 39** Floral (detailed)
- GU367 **ART 40** Mythic & Zodiac
- GU432 **ART 51** Botanical art
- GU433 **ART 52** Family scenes (2 Disks)
- GU434 **ART 53** Golf Humour (2 Disks)
- GU435 **ART 54** Space & transport
- GU436 **ART 55** Soft scene 2 – Rural pics
- GU437 **ART 56** Sports 3
- GU438 **ART 57** Navy
- GU439 **ART 58** Travel (2 Disks)
- GU440 **ART 59** Alphabet (2 Disks)
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- GU442 **ART 61** Fish & aquatic pics
- GU443 **ART 62** Softscene 3
- GU444 **ART 63** Restaurant (3 disks)
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- GU446 **ART 65** Anim & bird
- GU447 **ART 66** Mossburn animals
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- GU450 **ART 69** Transport (3 Disks)
- GU451 **ART 70** Trucks & trains
- GU452 **ART 71** Astrology (2 Disks)
- GU453 **ART 72** Aircraft (3 Disks)
- GU454 **ART 73** Birds – songbirds etc.
- GU455 **ART 74** Dogs
- GU456 **ART 75** Houses, castles & buildings
- GU457 **ART 76** Sports – Mac
- GU458 **ART 77** Horticulture (5 Disks)
- GU459 **ART 78** Military (10 Disks)

Coloured clipart also in stock – send for details

MUSIC UTILITIES

- MU2 **MODULES ONE**
- MU3 **MODULES TWO**
- MU4 **MODULES THREE**
- MU5 **MODULES FOUR**
- MU6 **MODULES FIVE**
- MU7 **MODULES SIX**
- MU10 - MU47 **ST SAMPLES & INSTRUMENTS** (38 Disks) or buy singly
- MU48 **8 CHANNEL SOUND TRACKER**
- MU49 **STAR TREKKER 1.3**
- MU51 **MODULE/SONGS 2**
- MU77 **MED 3.2** Music editor
- MU193 **OCTAMED v1.0b FF579** Music editor
- MU256 **MULTI-PLAYER V1.11A** Music
- MU317 **DENNIS SAMPLES DISK 2** Madonna etc
- MU318 **DENNIS SAMPLES DISK 3** Baby cough etc
- MU319 **DENNIS SAMPLES DISK 4** Telephone etc
- MU321 **DENNIS SAMPLES DISK 6** Star Trek etc
- MU322 **DENNIS SAMPLES DISK 7** Heavy monster etc
- MU323 **ASSASSINS AUDIO MAGIC VOL 1.1** Lots
- MU324 **ASSASSINS AUDIO MAGIC VOL 2** Trackers
- MU325 **SOUND APPLICATIONS A & B** (2 Disks)
- MU326 **MEGA MON v 3.20**
- MU327 **SAMPLE MAKER**
- MU328 **CASIO CZ-101**
- MU329 **DX 100**
- MU330 **PENDLE EUROPA**
- MU331 **AUDIO ANIMATION STUDIO**
- MU332 **INSTRUMENTS & SAMPLES**
- MU333 **PROTRACKER v2.2**
- MU334 **NOISETRACKER v2.0**
- MU335 **SOUND TRACKER v4.0**
- MU336 **PROTRACKER v2.3** Latest
- MU337 **ASI AUDIO MAGIC Vol 3** Trackers
- MU338 **ASI AUDIO MAGIC Vol 4** Inc Pro Tracker v3
- MU339 **OCTAMED V2.0** 8 channel MED sequencer
- MU340 **CDTV PLAYER** Simplifies audio CD's
- MU341 **SUPERSOUND v2.1** Sound sampling
- MU342 **SOUND** Sample player
- MU343 **DESKTOP GUIDE TO ELECTRONIC MUSIC** (3 disks)
- MU344 **TAB MASTER** Music to guitar translator
- MU345 **POWERCUTS** Good sound effect samples
- MU346 **BEATS** (5 disks) Drum Samples
- MU347 **VOCALS** (5 disks) Super Samples
- MU348 **DRUM KIT SAMPLES** (3 disks) High quality
- MU349 **KORG SAMPLES** Keyboard Sounds (3 disks)
- MU350 **MUSIC MODULES** (5 disks) Large modules
- MU351 **PURE SAMPLES** (3 disks)
- MU352 **METAL MODULES** (5 disks) Heavy Metal
- MU353 **CHIPMANS SAMPLE DISK** 1-70 Samples
- MU354 **SAMPLE FACTORY** Sound effects
- MU355 **DELITRACKER** Sound player
- MU356 **POWER PLAYER v3.9** module player
- MU357 **IFF BREAKBEATS 1**
- MU358 **TECHNO MODULES 1-5** (5 disks)
- MU359 **OCTAROCK 3D** Rock + Grafix
- MU360 **OCTASTUFF** For Octamed v3 &4
- MU361 **GUITAR TUNER**

VIDEO WORK

- V 99 **CATALOGUE WORKSHOP 1**
- V100 **CATALOGUE WORKSHOP 2**
- V179 **VIDEO APPLICATION UTILS**
- V180 **VIDI FONTS 1**
- V220 **VIDEO GRAPHICS** (4 Disks)
- V236 **CHEMNIMATE** Reaction anims
- V345 **VIDEO WIPES**
- V401 **INSCRIPT** Video titler
- V402 **TELE TITLER 2** Hi-res – use with V408
- V403 **VIDEO EDITORS KIT**
- V404 **CAPTIONATOR** Superb video titler
- V405 **HARLEQUIN VIDEO ART 1**
- V406 **HARLEQUIN VIDEO FONTS 1**
- V407 **HARLEQUIN VIDEO FONTS 2**
- V408 **TELESCROLL 1** Video titler
- V409 **TELETITLER 3** Lo-res – use with V408
- V410 **DESKTOP VIDEO** Add scrolling titles

A1200

- WS1-5 **WEIRD SCIENCE** S/Show & music (5 disks)
- SH1-6 **SUPER HAM PICS** (6 disks) Brill!
- AU12 **JPEG AGA IMAGES** (9 disks) Superb!
- AU13 **BAD BOYZ AGA SLIDES** (10 disks) Fab!
- AU14 **SLEEPLESS NIGHTS** – 3 utilities
- AU15 **A1200 UTILITIES** – Gif & PCX datatypes etc
- AU16 **A1200 WB HACKS**
- AU17 **ANDY'S WB3 UTILS** Brill! Fakemem, AGAtest etc
- AU18 **24 BIT UTILS** – 3 conversions progs
- AU19 **WINBLEND** Fractal generator
- AU20 **JPEG UTILS** Rend 24 convertor pics
- AU21 **HD PREP** preps hard drive
- AU22 **HDMEM** needs MMU
- AU23 **RD PREP** preps rigid disk
- AU24 **HD INSTALLER**
- AU25 **MAGIC WORKBENCH** Superb icons (HD only)
- AU26 **AGA UTILITIES 2** 256 colour icon ed etc
- AU27 **AGA UTILITIES 3** Kill aga etc
- AU28 **AGA UTILITIES 4** Bblank, checkaga etc
- AU29 **AGA UTILITIES 5** Degrader, AMIGAtodouble etc
- AU30 **AGA UTILITIES 6** A4091 patch, Ham8, newpop
- AU31 **A1200 VIRUS KILLERS**
- AU32 **NEW WB3 SUPER KILLERS**
- AU33 **A1200 INTROS**
- AU34 **HOY AGA DEMO 1**
- AU35 **HOY AGA DEMO 2**
- AU36 **NIGHTBREED** (2 disks) AGA sliedes
- AU37 **FERRARI AGA SLIDES**
- AU38 **CYNOSTIC SLIDES**
- AU39 **KEITH RHODES PICS** Fantasy
- AU40 **RETINA BURN AGA** Brill demo
- AU41 **PANTARHEI AGA** Great new demo
- AU43 **MSM v1.8** Martins System monitor for programmers
- AU44 **MAIN ACTOR** Modular anim. package
- AU45 **AGA BLANKER** – 14 different ones
- AU46 **STARTREK PICS 1-5** (5 disks)
- AU47 **MAGIC FACTORY SLIDES 1** – Brill Sci-Fi
- AU48 **MAGIC FACTORY SLIDES 2** – More Sci-Fi
- AU49 **PYGMY PROJECTS EXTENSION DEMO** – Rave
- AU50 **POINT OF SALE DEMO** – Superb
- AU51 **BLACKBOARD** – Image Processor
- AU53 **WB3 BACKGROUNDS**
- AU54 **KILL AGA v2** Turn off AGA chipset
- AU55 **KLONDIKE AGA** (3 disks)
- AU56 **MOTOROLA INVADERS 2** (2 disks)
- AU57 **UCHESS** (4Mb RAM req'd)
- AU58 **AGA TETRIS**
- AU59 **STEVE PACKER** (10 disks) Animations
- AU60 **NIGHTBREED** AGA Frac Flight
- AU61 **MEGABALL 3** AGA

Most titles in other categories run on A1200 – Some may need EM400

GAMES

- G4 **MEGABALL** Breakout – very addictive
- G5 **STAR TREK I** (2 disks) Space (Not A1200)
- G13 **CASTLE OF DOOM** Adventure
- G14 **HOLY GRAIL** Text only adventure
- G15 **GOLDEN FLEECE** Text only adventure
- G22 **CARD GAMES** Harp, Plait, Queens etc
- G23 **SUPER TWINTRIS** Shape dropping excellent
- G29 **GAMES DISK 7** Backgammon etc
- G33 **WIZZYS QUEST** * Arcade puzzle, good graphix
- G34 **RETURN TO EARTH** Elite type
- G35 **LLAMATRON** 512K & 1Mb Shoot 'em up
- G39 **BUG BASH** Shoot 'em up
- G41 **ESCAPE FROM JOVI** Space Arcade
- G43 **DOWNHILL CHALLENGE** Tactics, ski to win
- G44 **BATTLEFORCE** Fantasy roll playing game
- G45 **DRAGON CAVE** Dungeon Master type
- G49 **MECHFIGHT RPG** Roll playing game
- G52 **GREYSLAYER** Arcade adventure
- G53 **SCUM EATERS** Shoot 'em up
- G54 **STAR TREK 2** (3 disks)Not 1200
- G55 **POM POM GUNNER** * Arcade shoot 'em up
- G56 **FRUIT MACHINE** * Excellent
- G57 **MECHFORCE** (2 Disks) RPG
- G58 **SEA LANCE** * Submarine Simulation
- G59 **KLONDIKE** Cards
- G62 **AIR ACE II** World War 2 S.E.U.
- G65 **MERV THE MERCILESS** Platform
- G67 **TREASURE HUNT** (6-8 yrs)
- G68 **CHEAT LIST GAMES V1.0**
- G69 **WHACKO JNR IN WONDERLAND** Good for kids
- G70 **PARACHUTE JOUST** Good graphics
- G71 **CRYSTAL CAVERNS** Arcade adv
- G72 **TREK-73** Space text adv
- G73 **ZEUS – THE GAME** Puzz tiles
- G74 **DUNGEON DELVER** (2 Disks) Mazes
- G75 **PICK UP A PUZZLE** * (2 Disks) Jigsaws
- G76 **CHAINSAW DEATH** * Futuristic maze type
- G77 **CAN YOU PICTURE IT** * (2 Disks) Jigsaw
- G78 **CROSSFIRE** * Excellent for kids
- G79 **BALLOONACY** * Bomb the skyscrapers
- G81 **DEMOLISION MISSION** * Bomber
- G82 **BLACKJACK** Card game
- G84 **PETER'S QUEST** Arcade –Rescue the Maiden
- G88 **AMIGAMAN GAMES** 10 games
- G90 **SHAPES** Very playable for kids
- G91 **GO LOOLY** S.E.U. Good graphix
- G92 **STAR TREK THE NEXT GENERATION** (Not A1200)
- G93 **BLOCKIT** Good graphix – Ace
- G94 **HACK** Text adv
- G95 **DRAGON TILES** Great tiles game
- G96 **BOARD GAMES**
- G97 **ATIK ATAK** C64 game
- G99 **BART SIMPSON** Scrolling S.E.U.
- G124 **PIPE RIDER** Space Invader S.E.U
- G125 **RAMIFY** Pairing
- G126 **RUSH HOUR** Frogger – Get across the road
- G127 **TOMTESPELET** Speed ball type
- G129 **WET BEAVER GAMES** Pong
- G130 **WIZARD WORLD** S.E.U. Platform
- G131 **WORLD OF FOOLS** Shoot em up
- G133 **CARD SHARP** 5 card games
- G134 **TOTAL WAR** Risk type
- G135 **AIRMANIA** Platform
- G136 **SKYFLYER** WWII S.E.U.
- G137 **PUGGLES** Q'bert brill
- G138 **SQUATS REVENGE** Wolf clone
- G139 **PAIR IT** Shapes
- G140 **GAMES COMPILATION I** 6 games
- G141 **ATLANTIS I** Strategy
- G142 **NAPOLEONIC WAR SIMULATION** Strategy
- G143 **MISSION RAID PART II** S.E.U.
- G144 **SNAKES & LADDERS** Good
- G145 **GAMES GALORE VOL 7** For the young
- G146 **AIR WARRIOR** Flight simulation
- G151 **E-TYPE** Arcade S.E.U.
- G152 **DUNGEONS OF NADROJ** Hacktype
- G153 **QUICK & SILVER** Platform. Excellent
- G154 **MASTER OF THE TOWN** Shoot the sign posts
- G156 **ETHOS** Text adv + pics
- G157 **BATTLE CARS** 3D cars S.E.U.
- G158 **CHALLENGER** Quiz - 5 player
- G182 **CATACOMB** Graphic adv – very well done
- G183 **KINGDOM AT WAR** War games
- G184 **SMASH TV RIPOFF** S.E.U. Futuristic
- G185 **DOODY** Mario type platform
- G186 **PICK OUT** Pair it. V. good
- G187 **NU-SHOOT EM UP** Space
- G189 **STRIKE BALL** Baseball. Brill!
- G190 **PARAGON** Marble Slide
- G192 **CRAZY SUE** Platform. 1st rate
- G193 **HENRY IN PANIC** Manic Miner type
- G194 **CONCENTRATION V3.3** Pair it type
- G195 **DESTINATION MOONBASE** Thrust
- G196 **ESCAPE FROM JOVI III** Caves
- G197 **NO MANS LAND** War S.E.U.
- G198 **DOMINOES** V. Good
- G199 **RAPHAELS REVENGE** Turtle S.E.U.
- G200 **MIDNIGHT THIEF GAME** Adv
- G201 **LAMER GAME** Wolftype shoot the beasties
- G204 **GRUB GRABBER II** Help Elvin! Avoid gremlin
- G205 **SWORD OF WORLOCK** 3 disk Adv.
- G206 **A NIGHT AT THE TOP** Terrorist adv
- G208 **QUADRIX** Puzz. Excellent
- G209 **YUM YUM** * Pacman
- G210 **REVENGE MUTANT CAMELS** S.E.U.
- G211 **BATTLEMENTS** Hunchback platform
- G212 **LEMMINGOIDS** Blast them!
- G218 **KARATE WORM** Platform-cute
- G219 **SNAKE IN THE GRASS** Platform – neat
- G221 **WIZARDS DOMAIN** Graphic adv
- G222 **PIXIE KINGDOM** (2 disks)
- G223 **ARCADIA** Breakout – very popular
- G224 **PORK A PORK** Stop the foxes
- G225 **MR BRICK** – Mario type
- G226 **RAID III** S.E.U. – wicked
- G227 **SERENE II**
- G228 **WOTSITSNAME** Quiz
- G229 **TETREN** – tetris
- G230 **NUMPTY & THE ALIEN INVADERS**
- G232 **LOTHIAN** Graphic adv
- G233 **OMEGA RACE** S.E.U. Great
- G234 **MENTAL IMAGES DISK 2** 3 games
- G262 **MR & MRS** Young platform – very good
- G263 **TANX** Great 98%
- G264 **DEFENDA** Arcade 95% Brilliant conversion
- G265 **GRAND PRIX SIMULATOR** Mega
- G266 **NUMBER FUMBLER** Number puzzle
- G267 **LEMMINGOIDS** Blast away
- G268 **GROWTH**
- G270 **PROJECT 1**
- G271 **LAZER ZONE**
- G272 **LEMMINGS PACK**
- G273 **THE MAZE GAME**
- G275 **APIDYA**
- G276 **SHOOT OUT**
- G277 **SUPER SKODA CHALLENGE**
- G278 **COMPUTER CONFLICT 2**
- G279 **ANTEP & SLOT CARS GAME** RPG
- G280 **TRICKY & THE TURN GAME**
- G283 **CARD GAMES 2**
- G285 **MIND GAMES 21**
- G286 **HYPER TEXT CHEATS**
- G287 **TECHNOBAN** Puzzle game
- G289 **THE BEAST** Mission to kill
- G290 **MADILOT RUN** Cat & dog chase
- G291 **OUCH** Clobber those moles
- G292 **ABSOLUTE ADV VOL ONE**
- G293 **CHAOS STRIKES BACK** Maps etc.
- G294 **GAME TAMER v4.59** Latest
- G302 **AMOS CRICKET** Good cricket game
- G303 **ARAZNAX** 40 levels
- G304 **HELL ZONE** Elite
- G305 **FATAL MISSION** Good shoot 'em up
- G306 **GHOSTSHIP**
- G307 **CROSSMAZE/CRYPTO KING** Words
- G308 **INTERLOCK (AMOS)** 25 levels
- G309 **TANK ATTACK & MOUTHMAN**
- G311 **THRALLBOUND** Viking Adv Text
- G312 **BOUNCE AND BLAST** Platform
- G313 **SOCCER CARDS** Run the club
- G314 **CYBERNETIX** Fast action
- G315 **STAR MIX 2** 3 games
- G316 **FLAG CATCHER** Squares puzz
- G317 **OMEGA** Adv Moria type
- G318 **TOP SECRET** Excellent graphics platform
- G319 **MADONNA** Jigsaw
- G320 **ROBOCOP GOES TO IRAQ** seu
- G321 **BACK TO THE FUTURE III** Funny
- G322 **45 CHEATS** Codes etc
- G323 **TOMCAT** F15 shoot 'em up
- G324 **SUPER QUIZ**
- G325 **POWER PONG** Boing
- G326 **MAHJONG** Tiles
- G327 **NESTER** Cards
- G328 **STARFLEET** Shoot 'em up
- G329 **EXCALIBER** Shoot 'em up
- G330 **IMPERIUM ROMANIUM** Battle
- G331 **SQUAMBLE** Very Spacey!!
- G332 **JETMAN** Good shoot em up
- G333 **MECHFORCE v 3.71** Latest update
- G334 **PROPERTY MARKET GAME** Strategy
- G335 **ROLL ON & LAMER** Pushing
- G336 **HACKLITE v 1.0** Moria & Hack
- G338 **DIE FILTH** (2 disks) Brill like Swiv
- G339 **ULTIMATE HINT KIT v1.0**
- G340 **THE ACE CHEATS DISK 2** Lots
- G341 **BATTLE OF BRITAIN** Strategy
- G342 **THE SECRET OF MONKEY ISLAND** (Demo)
- G344 **ESCAPE II** Creating games
- G345 **QUIZMASTER v 1.0** Test your knowledge
- G346 **NEBULA** Shoot-em-up fast action!
- G347 **ESCAPE** Into space!
- G348 **RUMMY** Excellent card game
- G349 **SPACE RESCUE** Super shoot 'em up
- G350 **INVADERS MARK II** Space invaders
- G371 **ERIC THE WARRIOR** Sim to Gauntlet
- G372 **KLAKTRIS** Tris type game
- G373 **CLI-TRIS** Latest TRIS
- G374 **DELUXE PACMAN**
- G375 **GALAGA 92** Shoot-em-up
- G376 **LIBERATOR GAME** Shoot-em-up
- G377 **ACK-ACK**
- G378 **CRAZY SUE 2** Latest platform
- G380 **LAST REFUGE** Invaders
- G381 **ZINGGER GAME** Karate game
- G385 **MORIA v5.4** Latest
- G386 **FRUIT MACHINE II** AMOS good
- G387 **OBLIVION** Defenda clone
- G388 **BOMB JACKY** Platform
- G390 **OTHELLO** Board game classic
- G391 **SOLITAIRE SAMPLER** Cards
- G392 **WILLY IN THE CASTLE** Excellent platform
- G393 **FRUIT SALAD** Platform. Reviewed in Format
- G394 **MARIO IN WONDERLAND** Brill clone – Mega!
- G396 **GIDDY** Great new platform game
- G398 **ATOMS** Weird!
- G399 **VECTA STORM** Brill new Tempest clone
- G400 **DIGITAL TETRIS**
- G402 **TETRIS PRO**
- G403 **SUPER PACMAN 92**
- G404 **BRIDGE**
- G405 **18th HOLE GOLF** (2 disks)
- G406 **SLIDE SQUARES** Puzzle
- G407 **THEY CAME FROM OUTER SPACE** Shoot em up
- G408 **SON OF BLAGGER** Excellent platform
- G409 **BRAINBOW** Addictive puzzle
- G410 **MYSTERY 2144 AD** Futuristic Murder adv.
- G411 **GUSH** Fab pipeline clone
- G412 **MEXICAN MASSACRE** Arcade action
- G413 **100 MEGA GAMES** (7 disks)
- G414 **BOX** Adventure game
- G415 **SLAMBALL** Future Management sim.
- G416 **MAYHEM2** Multi player manic maze.
- G417 **MUGSIE** Money making gangster adventure.
- G418 **ROULETTE + PUNTO 2** Good game (not 1.3)
- G419 **BLITZ GAMES** Worm, buzzbar, speed etc.
- G420 **SKID MARKS** Amazing driving game.
- G421 **ZOMBIE, APPOCOLIPS AND DEFENDER 2** Brill!
- G422 **BILLY BURGLAR** Just try to escape.
- G423 **OLYMPIAD** (Lemmings) (2 disks)
- G424 **CAVE FLIGHT** Dodge the obstacles.
- G425 **SERIOUS BACKGAMMON** Demo
- G426 **AIRPORT**
- G427 **EXIT-13** Puzzle
- G429 **BOW & ARROW**
- G430 **BLOAD RUNNER**
- G431 **POPEYE** Demo
- G432 **CASTLE NORRIS**
- G433 **THE RIGHT WAY** Lemmings
- G434 **PATIENCE** Cards
- G435 **PREMIERE PICKS** Football
- G436 **BOB N' FLOP**
- G437 **ROAD TO HELL** Racing brill!
- G438 **FIGHTING WARRIORS** Street Fighter 2 clone
- G439 **LEMMINGS 2** HD install
- G440 **NAPOLEONIC WARFARE** (2 Disks) Strategy
- G441 **TEXAS CHAINSAW MASSACRE**
- G443 **SCRABBLE**
- G444 **SMURF HUNT**
- G446 **THRUST DUEL** Gravity control
- G447 **EXORCISM** (2 Disks) Adv. & graphics
- G448 **CONQUEST & DOMINATION** Strategy war game
- G450 **DONKEY KONG** Platform
- G451 **OPERATION METEOR** 3D Graphics
- G452 **MR MEN OLYMPICS** (2 Disks)
- G453 **SUITCASE** (2 Disks) Adventure
- G454 **ESCAPE FROM DOOM** RPG type
- G455 **HIGH OCTANE** Overhead driving
- G456 **FATAL MISSION 2** Shoot em up
- G457 **KUNG FU CHARLIE** Platform beat em up
- G458 **GAMES GALORE 13**
- G459 **MENTAL IMAGES Vol 2**
- G460 **IRON CLADS** (2 disks) Naval battle Not 1200
- G461 **INTREPID** Rescue Dame form Evil
- G462 **QUIZ MASTER**
- G463 **QUIZ CHALLENGE**
- G464 **EYE OF BEHOLDER II** Cheats
- G465 **CHEATS** Many solutions
- G466 **PASSWORD PARADISE**
- G467 **MEGACHEATS v3.0**
- G468 **ELEVATION 2** Platform
- G469 **SCORCHED TANKS** Battle
- G470 **AMOS LOADSAMONEY** Fruit machine
- G471 **STAR TREKING TRIVIA** (2 disks)
- G472 **SUPER TOMCAT** Shoot 'em up
- G473 **LCD DREAMS** Hand held games
- G474 **SEAHORSE GAMES CHEATS**
- G475 **NOSTROMO CHEATS & SOLVES**
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- BD 47 - EAT MINES 3
- BD 48 - EAT MINES 10
- BD 49 - NO ONE MINES 1
- BD 50 - NO ONE MINES 2
- BD 51 - NO ONE MINES 3
- BD 52 - NO ONE MINES 5
- BD 53 - NO ONE MINES 6
- BD 54 - NO ONE MINES 7
- BD 55 - NO ONE MINES 8
- BD 56 - NO ONE MINES 9
- BD 57 - NO ONE MINES 10
- BD 58 - SPUD MINES 3
- BD 59 - ENEMY MINES 1.3 only
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- BD 87 - DENMINE 6
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- BD 95 - EMERALD MINE 16
- BD 96 - EMERALD MINE 17
- BD 97 - NO ONE MINE 4
- BD 98 - NO ONE MINE 12
- BD 99 - NO ONE MINE 13
- BD 100 - NO ONE MINE 14
- BD 101 - NO ONE MINE 15
- BD 102 - NO ONE MINE 16
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- BD 106 - RUNNER MINE 4
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- BD 108 - BOND MINE 3
- BD 109 - BOND MINE 4
- BD 110 - BOND MINE 5
- BD 111 - BOND MINE 7.5
- BD 112 - BOND MINE 8
- BD 113 - BOND MINE 9
- BD 114 - BOND MINE 11
- BD 115 - RABOULDIX
- BD 116 - RUPPLE MINE 5
- BD 117 - RUPPLE MINE 3
- BD 118 - RUPPLE MINE 2
- BD 119 - RUPPLE MINE 4
- BD 120 - BLUE DIAMONDS 4
- BD 121 - INTO THE FRUSTY MINES
- BD 122 - SNELMINE 1
- BD 123 - OZ MINE 1
- BD 124 - OZ MINE 2
- BD 125 - OZ MINE 3
- BD 126 - BONDMINE 10
- BD 127 - DANMARK 1
- BD 128 - EXPERT MINE 1
- BD 129 - EXPERT MINE 2
- BD 130 - ROCKNUTS 2 1.3 only
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- D306 **ANARCHY-SEEING IS BELIEVING**
- D307 **CRIONICS HARDWIRED** (2 disks)
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- D310 **WACKO METAPHORPH ANIM** *
- D311 **ROBOCOP/RUNNING MAN ANIM** *
- D312 **KERFRENS DESERT DREAM 1993** (2 disks)
- D313 **JESUS ON E'S** (2 disks) 20 mins WOW!
- D317 **TECHNOLOGICAL DEATH** Like space balls Mega!
- D318 **SPACE BALLS** Brill!
- D319 **TEKNO-A-TAK MEGA RAVE**
- D321 **TROJAN TECKNO TRACKS**
- D322 **DANCE TRASH** (2 disks) Rave
- D324 **SILENTS DEMON DOWNLOAD** (2 disks)
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- D328 **CYCLIC ART**
- D330 **SILENTS EXPOSE** (2 disks)
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- D332 **BATTLE OF BRITAIN** Anim
- D333 **STONEARTS ATMOSPHERE** Great!
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- D344 **VANISH WORLD OF COMMODORE**
- D345 **SANITY WORLD OF COMMODORE**
- D346 **TRIP TO DEEP SPACE** (2 disks) Mega Rave
- D347 **LEMON RINK A DINK** (not 1200) Classy
- D348 **ALCHEMY RAGE** Great (2 disks)
- D349 **ELENIUM DEVIOUS MUSIC** (2 disks) 1.3 only
- D350 **TRS I** One year on
- D351 **PSYCORE ALIEN ENCOUNTER**
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- D353 **PENDLE EUROPA KAOS THEORY** Techno
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- ASI 5 Raid, Go Looly & Retaliator
- ASI 6 Pacman Downhillchallenge Welltrix etc!
- ASI 7 Moonbase, Trix, Nightworks Clauderunner!
- ASI 8 Airace 2, Hball, Snakepit & Numberfumbler!
- ASI 9 Features Battle Pong & Blizzard!
- ASI 10 Escape, Pipeline, Pickout & Sys!
- ASI 11 Dad, Connex, Reversi Towers & Trippin
- ASI 12 Llamatron, Car, Powerpong, XFI, Fab!
- ASI 13 Twintris, Squamble, Block it, Ball etc!
- ASI 14 China Challenge 2 & Amiga Columns!
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- ASI 39 Lots of Card Games on this disk!
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public sector



What costs next to nothing and regularly puts the big league to shame? Public domain, shareware and licenceware, of course. Adam Phillips follows this month's bargain basement offerings

If you flick through this magazine, you'll stumble across pages made up of listings with a phone number at the bottom. Unless you're reading another kind of mag altogether, you'll see that these are the advertisements for the various PD libraries all round the country that offer excellent value for money and some of the most intriguing and interesting software on the Amiga scene. Like...

Dithell in Space

Programmed by: D Ithell

Available from: D Ithell

It's always a pleasure to give room in these pages to a product that boasts playability and professionalism in one package. Dithell in Space is one such title which is both entertaining and addictive.

Set over 50 missions, the player takes on the role of the hero of the title, Dithell (presumably major, sergeant or other space adventuring title).

The game is a cross between Jetpac (the old Ultimate classic) and a sideways shoot-'em-up. For example, the first mission is set on the moon – aliens have invaded and you've been sent to clear the little suckers out with a large laser rifle.

Using your jetpac, move around the landscape blowing the xenomorphs to kingdom come and picking up any bonuses or power-ups along the way – the latter improve the power of your gun and so on.

On completion, you're scooped up by your spacecraft and head into an asteroid belt to blow the rocks to pieces for points with your ship.

It's this variety in gameplay that gives Dithell in Space an edge over the competition. The only real gripe is the sometimes highly sensitive controls that can send you hurtling feet first into the enemy, or an abyss.

Despite this, with the split-screen two-player game and effective use of graphics and sound as well, this is great value for money and a fun game to play.



Shoot the bad guys, in this case, aliens and make a hasty escape in Dithell in Space

Hoi AGA Remix

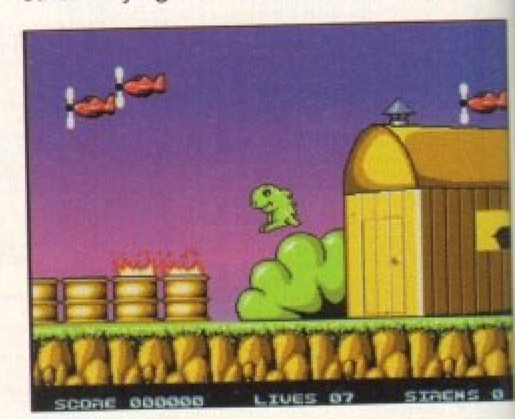
Programmed by: Team Hoi

Available from: Graphic F/X

Disk No AA 046

One of three platform-based games on offer this month, Hoi is by far the most attractive and enjoyable. Originally released as a full-priced game, it has now been given an AGA facelift and presented to the buyer as a five-leveller.

Featuring a dino in the lead role, the player must move around the varied and interesting landscapes picking up diamonds and generally avoid being stung by bees or cut into pieces by propellers and other varying hazards. Each of the levels is



Smooth graphics and smoother game play make Hoi a must-purchase – a superior professional PD product

Bon Appetite

Programmed by: Boris Shor

Available from: Scribble PD

Disk No U233

For connoisseurs of food who wish to bring their culinary talents into the technological age then Bon Appetite could be an ideal cooking companion.

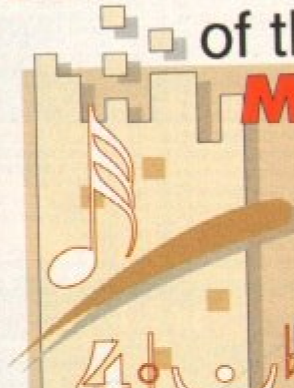
The program is simply a database to store all your recipes on. By entering details of ingredients, their amount, a description of the cooking techniques required and any other details, an extensive computerised cookery book can be built up for easy updating and unfussy presentation.

Just think – no more risking the treasured family recipe book as it sits precariously close to the overflowing casserole dish as you add herbs and spices – simply print the database out and have no fear that the original is anywhere near the fruits of its chef's labours.



Half a ton of chutney, a donkey and one sticky bun and what have you got? Bon appetite – a cooking database as used by Charlie Chuck

MUSIC DEMO of the MONTH



Neural Assault

Produced by: Rage

Available from: PD-Soft

Disk No 3636

I have been swamped, nay, marooned by music demos this month. After ploughing through all of them, I came to the conclusion that most are not worth the punters' money and, more to the point, lack any individual imagination.

Enter Neural Attack from Rage and the

quite different – one takes you under water, the other through a forest and one through a lethal construction site.

The penultimate level consists of the dino strapping on a jetpac and blasting anything that gets in the way, and the final stage sees your Jurassic dude rushing through a various obstacles too reach the end as everything begins to fall to pieces around him, threatening to whisk him off down into an abyss.

The only negative that I managed to stumble across was the irritating law of gravity that seemed to plague the game – make your fall too large and it's bronto burger time as your character dies (the death effects are excellence as well). The problem is that you don't have to fall very far at all.

Despite this shortcoming, Hoi AGA is a charming title which will appeal to adults and kids alike. Recommended.

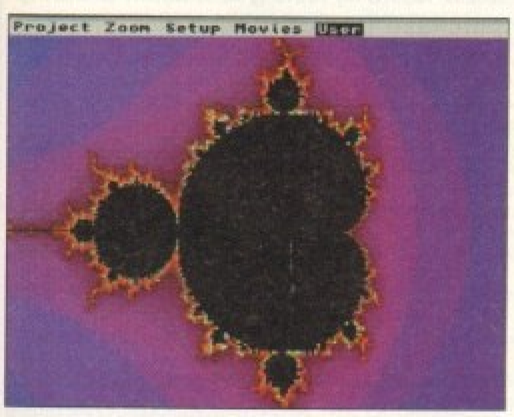
Techno Merda II

Produced by: RamJam

Available from: PD-Soft
Disk No 3638

Italy is known for its passion and pasta. Never before have I seen a music player program on the PD that can be described as so... errr... individual.

Coming on strong on two disks, Techno Merda II consists of four "songs" and accompanying (in some cases, graphic) images. On playing the first, three simply-drawn faces peer back at you from the screen, opening their mouths to sing the words that appear, karaoke-style, at the bottom of the picture.



Create and manipulate fractals in this easy to use and effective utility

A mixture of incomprehensible Italian flashes up with the only two English words being particularly well used by the likes of Ice-T, Ice Cube, Cute-E and so on.

This is all funny stuff as a whole – one song that might wipe the grin/cringe/smirk off the viewer's face is the final track where you are shown a very basic drawing of a singer at a karaoke competition who certainly looks female but after a couple of minutes, turns out explicitly not to be... I'll leave you to work it out (this program isn't for kids and could also understandably be highly offensive to some of our readers).

A prime example of Euro-trash, Techno Medra II is a relatively harmless and often amusing title simply due to the badness of the whole proceedings. Recommended only if you are a glutton for punishment.



This is so bad it's good... this particular picture turns potentially highly offensive after a couple of short minutes

Mand 2000

Programmed by: Cygnus Software

Available from: Scribble PD
Disk No V239

Call me cynical but I've never seen much point in fractals as part of computer entertainment. One pretty much looks the same as another and there is only so much you can do with them – take hard drugs and look at the screen for half an hour.

Mand 2000 stands out from the usual fractal crowd due to its ease of use and many features. Presented with a simple pre-generated image, the user is able to choose from many different facilities provided by the large selection of pull-down menus.

If you want to zoom in for more detail, simply double click on the area you want blown up. On the other hand, choose from one of the many zoom options which include "blob" and "awesome" to see what the computer can come up with.

The computer will redraw the fractal and fill in the details. It takes a little time but considering the logistics involved, it's understandable.

Calling all PD libraries...

...and individuals with anything remotely worth my while having a peek at. If you want something released as PD, or you're a library with stacks of hot new stuff that you haven't seen reviewed in these pages yet, why not drop me a line with a copy, full documentation and everything clearly labelled? I promise I'll at least look at your work.

Adam Phillips, PD submissions,
Amiga Computing,
Europa House, Adlington Park,
Macclesfield SK10 4NP

For those pop video directors among you who like the look of a good fractal or two pulsating on the screen, a Movie Record option has been kindly included.

You can view the sequence back and cycle through the colours or alternatively, change the palette for differing effects. While there may not be much point to the proceedings, this is surprisingly fun and satisfying to use. I am a cynic no more.

Sonic Attack

Produced by: Dual Crew Shining

Available from: PD-Soft
Disk No 3645

Sonic 3 is upon us – well, if you've got a Mega Drive. Otherwise the blue-skinned character who can boast being recognised 99 times out of a 100 by the public at large has become unofficially involved with this music player, courtesy of Dual Crew ➤

user is offered a wide selection of interesting stills, anims and 3D ray-tracing, all presented with professional style and flair.

There are precious few computer clichés such as spinning cubes and others – in fact, these have been replaced with spinning Amigas, keyboards and a BP sign, which is an improvement.

While a couple of sections are on the weak side (the fractal piccy as an example), some the others are positively begging for a law suit. The anim featuring Darth Vader as the head of BP isn't exactly good PR for the company that claims to help the world, but freedom of the PD is everything.



A disk crammed full of effects and routines that on the whole stand out from the usual

Overall, the producers of this demo seem to have looked around and sussed out what works and what doesn't... other less observant programmers, take note.

Shining. Booting up the first disk of several presents the viewer with some visually appealing images and relatively sound piece of music.

Sonic is apparent in most screens and is well rendered if a little inaccurate in places. The first feature for you to interact with is the mix-e-load program which allows you to mix your own beats, rhythms and bass from a large selection in memory.

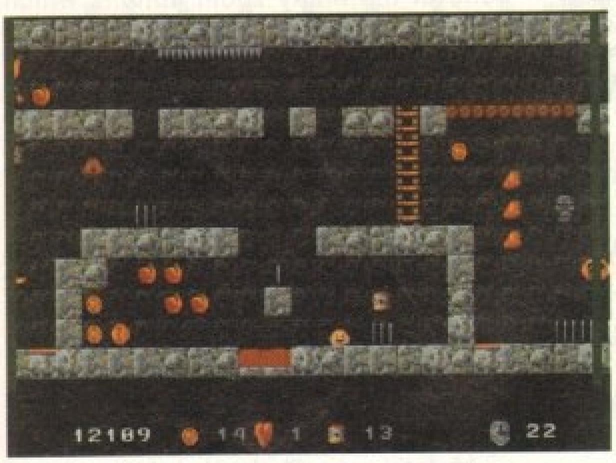
This is actually pretty good fun and to be honest, is the best part of the package. Eventually, you'll find yourself confronted with a large list of music tracks to play and listen to.

These are all pretty average unfortunately but Sonic, the raver, dances his way around the screen to add to the frivolity.

Despite the lack of musical greatness, Sonic Attack does offer enough to while away the time with its good looks and slick programming.



That blue ball of spikes gets about everywhere from spaghetti and comics to computer games and rave music. This guy is hip – not



Guide your little blob all over the screen and collect the letters to spell EXIT

Rocky

Programmed·by: Michael Pratt

Available from: Michael Pratt

Another epic story makes an appearance on the humble pages of this ever-so-modest computer magazine. No, this title isn't about boxing or how many sequels you can make before punters stop paying the cinema entrance fee – it's about something far more important, something that reflects the true heroism of the renaissance, post modern, new age... Blob?

That's right, a tiny planet many large and ridiculously huge light years away sits quite inconspicuously, called Blob. Aliens have turned up and wish to conquer this humble planet, with a modest population of estate agents and interior designers.

But, no, wait, yet a-bloody-gain there is another upstart who can save the day, who can clutch the reins of honour and courage – Rocky...

It's presented in sideways scrolling platformer with graphics akin to those found in The Fury of the Furries (reviewed in this mag a couple of months ago). The player must move Rocky round the screen collecting letters that make up the word EXIT. On doing so, a portal will open and you move on to the next level.

The adventure begin in the dungeons where the hero of all heroes is being kept. This prison must be escaped from to move into the alien's lair where the enemy computer must be switched off permanently and the end of game baddie destroyed.

There are 17 stages in all and the title is difficult from the word go with various traps and other cunning devices blocking your way. The controls aren't great – they feel a little unresponsive when it comes to jumping exactly the way you want to. On a couple of occasions, I dreaded some obstacles because it felt a little too luck driven.

Overall though, Rocky is a challenging game with good sound effects and reasonable graphics. There are enough novelties and skill testing to make it a worthy purchase (the price of a disk and two stamps). Recommended.

lay your hands on me

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Manchester M21 2BN
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Dynamic Skies

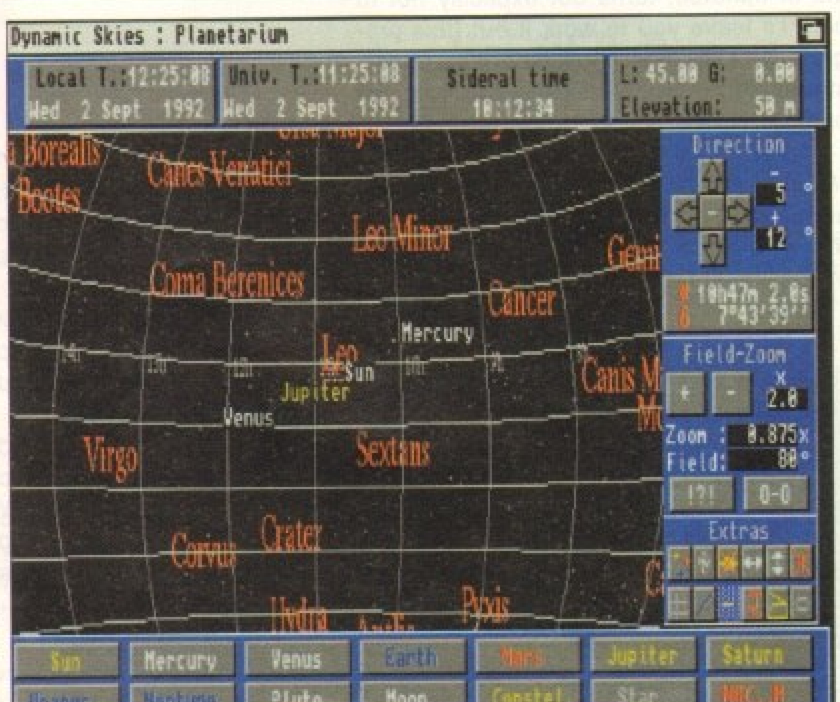
Programmed by: Patrick Debaumarche

Available from: PD Soft
Disk No V1265

Dynamic Skies is a trip into the world of astronomy where us humans realise how mortal and rather small we really are compared to the rest of the known galaxy.

This program is a highly useful toolbox that gives details to the differing planets, nebulae and stars within a rather large range of this planet. Provided are a myriad of options and features to help you with your astral studies.

Suppose you have an urge in the middle of the night to take a closer look at that hulking sphere, Jupiter, from the comfort of your own window. Enter Dynamic Skies to show the rise/set times of Jupiter. With a click of a button, you'll be presented with a simulated sky at the designated time.



The universe is the limit with Dynamic Skies, a comprehensive toolbox to aid you with your star watching

If you're still not happy, it's possible to animate the proceedings to see exactly what time is ideal to see the planet in all its full glory.

The package is easy to use if a little dull visually to the untrained eye. The update is rather slow when zooming in and out on a particular point even on the A1200, which can lead to much drumming of the fingers in impatience. The good points by far outweigh the weak elements though. This for beginner and expert alike.

It's a great program and deserves the attention of your eyes and your wallet.

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GAMES

G096 POPEYE LCD C64 classic conversion
G112 CUBULUS puzzle games based on a RUBIK CUBE
G222 MEGA 21 GAMES collection of 21 game packs
G235 DRAGON CAVE The best animated 3D puzzle game ever. Very similar to Dungeon & Dragon type games
G237 SCRABBLE high quality board games conversion. Up to 4 player or play with computer. (not A1200)
G256 INSIDER CLUB buy/sell Stock Exchange games. Share objective of the games is making money
G272 TANK BATTLE Brilliant 2 player game
G274 MR DUG Arcade conversion (few years back)
G329 MADONNA NUDE PUZZLES 15 puzzles (jigsaw game)
G330 TOP SECRET Brilliant platform games similar to OCEAN RAINBOW & PARASOL (not A1200)
G333 CYBER-NETIC regarded the best defender type games with all usual powerup. Recommended
G334 DONKEY KONG Rescue your girlfriend (not A1200)
G335 CRAZY SUE 2 cute platform games. Brilliant graphics
G356 WONDERLAND brilliant Mario Brother games clone
G362 DELUXE PACMAN Still the best Pacman ever released
G366 BINGO CALLER Amaze your gran with this fully speech bingo caller
G373 AIR ACE II Very playable ZENON 3 shoot games
G389 CASINO GAMES Lots of casino type games
G390 TETREN tetris clone (90% mark in AMIGA FORMAT)
G393 BUBBLE GHOST Game boy conversion & very playable
G400 FIGHTING WARRIOR PD version of Street Fighter 2 amazing large graphic & it is £23.99 cheaper
G410 FATAL MISSION Nemesis clone with 1 or 2 player
G417 FIVE STAR 22 PUZZLE PACK Amazing collection of 22 puzzle type games, our top seller
G422 SERENE 3 similar to the commercial game ZENON
G435 ROULETTE the best Casino roulette simulation yet
G438 TRAILBLAZER conversion of the C64 classic game
G441 E TYPE 2 the best asteroid clone ever
G443 OLYMPIAD DISK (2 disk) Sport even with Lemmings as the star (very good)
G460 WIBBLE WORLD GIDDY Brilliant platform game with very large & cute graphics similar to the DIZZY series
G470 BALL LIGHTNING 1 or 2 player multi level platform
G490 MEGA BALL 2 new & highly playable breakout
G500 TRANSPLANT Voted the best game of 93, brilliant E-TYPE clone but much better, loads of power up & level
G502 DRAGON FIRE Excellent graphics (A500 only)
G519 LABYRINTH II Very good text only adventure.
G520 FATAL MISSION 2 (new see G410)
G521 FRUIT SALAD VG collect/ platform type games
G530 MAD FIGHTER (A1200 only) Superb street fighter 2 clone with very large well animated characters
G531 OPERATION FIRE STORM detailed graphic platform games with lots of action/shooting element. Brilliant
G532 AGA KLONDIKE (A1200 only) (3 disks) the best card games yet & each card has different glamour girls pic
G535 BLACK DAWN the best RGP games yet similar to HIRES GUN, very highly rated in most Amiga magazines
G540 ORK ATTACK Very bloody shooting games with large & detailed graphics
G545 KUNG FU CHARLIES Very cute & playable kung fu games with platform
G560 IMPERIAL WALKER Take control of an X wing fighter in this 3D game
G567 STAR BASE 13 (2 DISKS) Brilliant graphic Epic adventure like Monkey Island 2. Recommended
G568 MONACO Fast furious racing games
G569 SUPERIX Birds eye view Formula 1 racing games
G525 GRAND PRIX MANAGER 93 Very good management type games, use point & click system, good
G526 MENTAL IMAGE 1 contains 3 games
G527 MENTAL IMAGE 2 contains 3 games
G528 MICRO MARKET well presented stock market games
G529 SKID MARK extremely realistic & very playable 4 x 4 of road racing games
G534 CASTLE KUMQUAT Very good overhead (like Alien Breed) games puzzle with lot of inter connect level
G542 ROAD TO HELL Brilliant 1 or 2 player overhead view car racing games with engine upgrade option etc.
G544 SUPERTOM CAT New vertical shoot em up games
G546 RAID 4 more refined vertical shoot em up
G657 AMOS LOADSA MONEY another very good fruit machine simulation with exceptionally large reel
G659 SLAM BALL Manage your own futuristic team
G660 L.C.D. DREAM Straight conversion of 4 LCD games includding Octopus, Parachute, Fire Attack, Oil Panic
G661 POP QUIZ Answer by click on A, B or C box

More games compilations see the ASSASSIN collection

EDUCATION

E001 KIDS PAINT Paint package designed for kids
E002 COLOUR KIT Colour book for kids
E003 TREASURE SEARCH Find the hidden treasure
E004 LEARN & PLAY I (not A1200) Maths & games
E005 LEARN & PLAY II for kids (order together)
E006 SPANISH TRANSLATOR (English to Spanish)
E008 MR MEN (A500 only) Story adventure
E009 ASTRONOMY tutorial on solar, star system
E010 SIMON & SPACE MATHS Maths & Simon games
E011 EDUCATION PACK 1 (5 disks) Lots of education programs range from Maths to games. We recommend you buy this collection
E019 DINOSAURS Explains what is a dinosaur
E021 STORY LAND II Interact puzzle game with 4 worlds to visit & solve (buy it...recommended)
E022 LANGUAGE TUTOR 4 languages
E023 TALKING COLOURING BOOK Very good Art/Paint package that talks
E024 EASY SPELL II Improve on their spelling
E025 SCRABBLE (not A1200) board game
E026 WORDS Can help you solve crosswords
E027 OSWALD large cartoon game kids will love
E31 IQ TEST + IQ GAMES Great to test your IQ
E33 +KEYCLICK II Good typing tutor
E35 CHESS HELPER chess tutor program
E38 AMIGA TUTORIAL explains about AMIGA
E39 COMPUTER CARE
E40 +GUIDE TO LOWER BACK PAIN Tutorial on the spine & how to avoid back pain
E42 +FRACTION & SILQUEST 2 good Maths programs
E44 STEAM ENGINE V2 Cut away animation of the Steam Engine
E45 PETROL ENGINE Cut away animation of the petrol engine
E46 GAS TURBINE ENGINE Cut away animation of the gas turbine engine
E54 DEMOLITION MISSION Simple game for kids, destroy buildings
E57 APPLE CATCHER Good graphics easy to play
E58 CROSS MAZE & CRYPTOKING
E59 VERB QUIZ Testing you or your child the word & it related
E61 KING JAMES BIBLE (4 disks) A complete bible on 4 disks fully menu driven
E70 +MATHS DRILLS Help kids improve maths etc
E071 +ERROR INFO Gives info on error guru message
E074 +AMIGA BEGINNER GUIDE
E075 +WORLD WAR 2 2nd World War with maps/pics
E076 SCIENCE (4 disks) Excellent mix of physics, chemistry & science programs. Recommended
E080 KIDPRIX New paint package specially for kids
E081 ASTRONOMY (4 disks) Plot sun location, find star, solar position etc
E090 KID D.T.P. Easy desktop publishing for kids
E092 SING ALONG RHYMES o Jack & Jill. V GOOD
E094 HIGHWAY CODE TUTOR - QUESTION 7 ANSWER Teach you all the highway code signs
E096 READ & LEARN With the 3 little piggy story
E097 BACK TO SCHOOL 1, 2 & 3 (3 disks) Lots of games and educational programs for kids, recommended
E100 LITTLE TRAVELLER Info on world wide places
E101 WORLD GEOGRAPHY map of the world & Britain
E103 DISCOVERY OF THE ATOM (2 disks) tutorial
E104 DESK TOP GUIDE TO MUSIC (3 disks) Massive tutorial guide to making music, recommended
E107 TRUMPTY FIREWORK ALPHABET Very entertaining way to teach your child the alphabet, fully animated
E109 MR MEN OLYMPIC (2 disks) large Mr Men characters as the stars even for this Olympic. Recommended
E110 CULT TV DATABASE (2 disks) info on early TV films
E115 ELECTRONIC WORLDS (3 disks) new K. James bibles
E116 HOW THE EARTH BEGAN Info on the Big Bang

More education software in catalogue disk

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D011 MULTITASKING Demo of what is multitasking
D016 DEAD DANCE THRASH good dance music based demo
D050 PINK FLOYD THE WALL (6 disks) Massive music & demo lasts a long time (requires 2 disk drives)
D091 STAR WARS DEMO (2 disks and A500 only) Super starwar demo, lots of X wing anim
D107 ODDYSEE (5 disk & A500 only) Incredible 40 minute space epic journey movies. Recommended
D118 STAR TREK MEGA DEMO A (A500, A1200)
D120 1911 VOYAGE Brilliant demo lot of fill vector
D152 THE ELECTRIC TOUCH Multi scroll vector etc
D174 ACID MIX 5 brilliant aid track
D261 FONTIER Incredible Elite 2 demo animation
D251 MANGA WORLD Brilliant manga slideshow
D252 JAPANESE LANG Learn how to speak Japanese
D253 SUNTEAM GG ESWAT Eswat games
D254 AKIRA DEMO Akira Manga demo
D255 TROOP JUGERNORT 1 Story & games
D256 MANGA WORLD 2 More Manga slide show
D257 SUNTEAM QUIZ Quiz
D258 MAKE IT SO EASY Guess

A1200 ONLY

AGA001 EXTENSION DEMO Stunning demo with fast landscape anim and a rotating city, receive 90% in CU
AGA002 FRACTAL GENERATOR(NEW) Create stunning fractal in 256 colour
AGA003 WORKBENCH HACK Load of hack/toy/blanker etc
AGA006 NEW SUPERKILLER Know & kill 316 types of virus, well recommended
AGA007 MINDWARP one of the very first demo for the A1200
AGA011 SLEEPLESS NIGHT 3
AGA012 PLANET GROOVE release by Team Hoi
AGA013 MOTOR INVADER 2 (2 Disks) Very playable INVADER clone set. Recommended
AGA015 POINT OF SCALE Stunning vector demo came direct from France
AGA016 CHROMA good demo
AGA017 WORLD OF MANGA AGA (4 disks) Load of cute Manga chic slide show in stunning 256 colours
AGA021 MAGIC WORKBENCH Improve the look & add extra command to your Workbench (HD required)
AGA023 U-CHESS the best chess program so far, stunning graphic but requires 4 megabytes
AGA024 WORKBENCH 3 SCREEN Great back drop for A1200 (not for beginners)
AGA41 GIF BEAUTIES VOL 1-10 Available each disk auto boot & contain loads of stunning pics of raunchy women. Note fully compatible with any Amiga
AGA062 BODY SHOP VOL 1-7 Available (2 disks each) See description above (A1200 only) & order with volume number 1 to 7 (2 disks per volume)
AGA080 FIT CHICK VOL 1-5 Available (2 disks each) see description above (A1200 only)
AGA90 ASSASSIN FIX DISK 1 brilliant collection of degrade utilities for running non compatible software, we recommended you get this 2 disk now
AGA91 ASSASSIN FIX DISK 2 (new) latest contained more degrade utility (see above) Recommended
SEE GAMES, UTIL ETC. FOR MORE A1200 SOFTWARE

ANIMATION

A013 SPACE PROBE search for alien lifeform
A022 LUXO TEENAGERS Incredible ray trace animation
A072 LIFE A BITCH (18+) We all know life's a bitch
A179 THE LIVING WORLD SLIDESHOW
A187 PERIL OF THE DEEP (2 disks) Incredible slideshow of very big sea creatures
A193 NEMESIS COMIC Animate comic set in space
A215 MADONNA 3 (3 disks) Madonna fans, get this, a must!
A231 ALIENS The best Alien slideshow & demo
A293 MANGA COMIC Cute, chic and robot slide
A302 CAT SLIDESHOW For all cat lovers
A336 FAST CAR (Not A1200) & expensive car slide show

MUSIC

M001 BEASTY BOYS Good , We Want Some Pussy songs
M002 MICHAEL JACKSON Brilliant song of "BAD"
M005 +100 C64 TUNES 100 C64 Games Music
M072 +MADONNA songs from the hanky panky album
M076 POPEYE meet the Beast Boy, very good
M156 +CD PLAYER Simulate a CD player
M160 +I AM TOO SEXY (2 disks) full song
M194 JESUS ON E'S (2 disks) Super music disk
M262 A-Z TUNES (4 disks) hundreds of C64 games music

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CCA05 INDIA - LUXEMBOURG
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CCA09 SENEGAL - TUAW
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CCA27 CATS
CCA28-35 DOG (8)
CCA36 EXPLORERS
CCA37 FISH (4)
CCA41-51 FLOWER (11)
CCA56 HORSE (2)
CCA57 FRUIT (2)
CCA55 FRONTIER
CCA58-62 INSECTS (4)
CCA62-63 INVENTORS (2)
CCA64-72 MAMMALS (9)
CCA73-74 INSTRUMENT (2)
CCA75-76 MILITARY (2)
CCA77-78 PRE HISTORY (2)
CCA79-83 PEOPLE (4)
CCA84-85 PRESIDENT (3)
CCA86-88 REPTILES (3)
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CCA90 SPORTMAN
CCA92-97 TREES (6)
CCA98-101 VEGETABLES

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0003 +Bodytalk (2) (A)	0031 +Calendar Girls (A)
0006 +Viz Calendar 1990 (A)	0032 +Mayfair (A)
0007 +NIGHTBREED (A)	0033 +Utopia (A)
0009 +Maria Whittaker (A)	0045 +Girls of Sport (A)
0024 +Sabrina Special (A)	0049 +Page 3 Girl (A)
0025 +Die Filkinger (A)	0070 +Gan Gan Girls (A)
0026 +Madonna Early Days	0071 +Tina Small (A)
0028 Kathy Lloyd*	

FONTS

F001 +FS Font (1-5)
F015 +Deluxe Paint Font 1
F016 +Deluxe Paint Font 2
F017 +Deluxe Paint Font 3
F018 +Deluxe Paint Font 4
F020 +Halc Font (3)
F023 +Computer Eye Font 1
F024 +Computer Eye Font 2
F025 +Fancy Font Volume 1
F040 +Digi Font Volume 1
F045 +Mega Font Volume 1
F050 +PS Logo Font (1-9)
F050 +C.G. Font (1-7)
F070 +Pagestream Font (1-6)


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SYSTEM

Fantastic Voyage



Psygnosis's high-tech shoot-em-up, Microcosm, infects the CD32

SYSTEM PREVIEW

SYSTEM ANALYSIS

Under the system spotlight this month

On guard!

Acid Software, the team behind the highly popular Skidmarks, have a new release lined up to arrive this summer. Guardian is a fast action 3D shoot-'em-up which will be available on the CD32 and A1200.

It features some very smooth and fast 3D polygons and borrows heavily from the Super Nintendo classic, StarWing. Guardian will let the playe,r fly wherever they want and have the ability to see the action from any viewpoint.

A zooming camera will enable the game to be viewed from any angle and from any distance. This feature is almost certain to make it onto the CD32 version, but is unlikely to find its way onto the A1200 version.

Guardian has only been in production for six months and is nearing completion. Expect a lengthy preview in System very soon.



Guardian – a fast action 3D shoot-'em-up comming so on the A1200 and CD32

system online



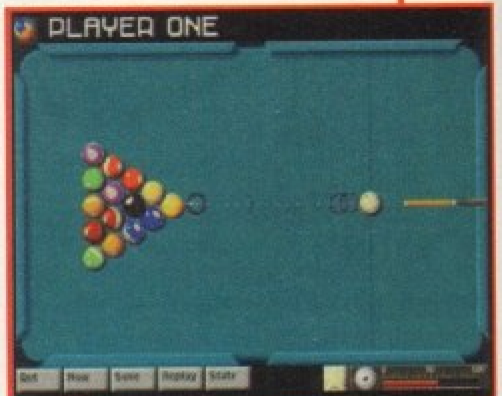
What is going on in the ultra-fast-moving computer industry? Well, that's what these pages are for – to keep you up-to-date on what, where and why

Team 17 rack 'em up

Not a company to rest on their laurels, Team 17 are back with a brand new budget game. Following their recent success with revamped classics like Alien Breed and Project X, as well as original products such as Qwak and F17 Challenge, Team 17 are about to release Arcade Pool.

It is, of course, a pool simulator for one or more players, which features excellent animation, smooth movement of the balls plus authentic digitised pool sounds and crowd applause effects. Options include the chance to play eight-ball, nine-ball and speed pool.

One outstanding feature of Arcade Pool is that it will detect and use the AGA chipset for an enhanced display during play. At a price of just £9.99, Arcade Pool offers tremendous value for money, especially when it has been in development a lot longer than your average full-priced game.



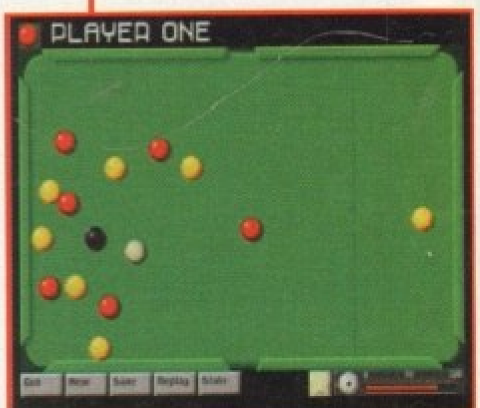
In Team 17's Arcade Pool, you can play US pool



Ultimate Body Blows



Alien Breed: Special edition



...or you can grab a pint and play the UK version of the game

Twice as nice at half the price

Team 17 have always given gamers a grand deal when it comes to the pricing of their games, and their forthcoming CD releases are no different. Two brilliant value-for-money game packs should be in the shops by the time you read this.

The first pack contains Alien Breed: Special Edition, the fantastic arcade style blast-'em-up, and Qwak, the superb one or two-player arcade platform romp. The second pack incorporates Project X, the award-winning classic shoot-'em-up, and F17 Challenge, the fast-paced budget racer.

Both packs are available at the superb price of only £24.99. CD32 owners who've been whinging about the lack of decent games for their machine can now stop worrying and start buying.

Also coming up from Team 17 is Body Blows, and it's going to hit the CD32 in some style. Entitled, Ultimate Body Blows, this enhanced version of the beat-'em-up classic will sport stunning new background graphics, improved gameplay, superb 16-track digital music and 23 characters in total. What looks like being the definitive Amiga beat-'em-up should be available now at £29.99.

Bargain Daze

This April, Daze Marketing release two new Silmarils games – Ishar 3 and Robinson's Requiem. The Ishar series has attracted an extraordinary following over the last two years. Neither Ishar or Transarctica has been released as budgets yet.

They are still full-priced games, in full-priced boxes, but Daze are offering them direct to System readers for just £4.99 each. Daze realise that there are people out there who still haven't seen the RPGs that Silmarils make, and reckon that once they've seen these two games, gamers will be coming back for more.

The offer is only available direct from Daze Marketing. The games are currently priced at £25 in the shops, so if you haven't got either of these Silmarils products then this is one opportunity you can't afford to miss out on.

To receive your games, simply send a cheque or postal order to Daze Marketing at 2 Canfield Place, London NW6 3BT.



Richard from Daze Marketing is the man who is offering you classic Amiga games at the low price of £4.99

System Technology

This section of the news will keep you up to date on forthcoming games technology from the major players in the computer industry

● The hype about Sega and their new 32-bit Saturn machine is continuing to rise. The Saturn was expected to be a CD-ROM-based system with the possibility of a cartridge port.

Not only have Sega decided to include this cartridge port, but a second, cartridge-only machine code-named Jupiter will also appear and will be released in Japan at the same time as the Saturn in November – although Jupiter has still not been officially announced.

● Atari's Jaguar has got off to a slow start in the UK. The company had hoped to ship in several thousand consoles back in December, but only managed to actually obtain a few hundred machines, thus leaving customers who placed advance orders disappointed.



The reason for this predicament was that Atari had received too much good publicity and found themselves surrounded by consumer demand three months before the actual launch. The official UK launch is now scheduled for June.

● Sony have now entered the video game market with the PS-X (Playstation X), a CD-only multimedia station powered by a 32-bit Risc chip, aided by a custom graphics chip called 3DGE (3D Graphic Engine).

The PS-X is reported as being more powerful than Panasonic's 3DO machine, capable of handling 360,000 polygons simultaneously with access to 4,000 hardware sprites. It's scheduled for release in Japan at Christmas.

Into the next Millennium

After the success of Diggers and Brutal Sports Football, Cambridge-based software house Millennium have released details of their forthcoming products for late 1994.

The first one to hit the shelves will be Mr Magoo. This licence was acquired from United Pictures of America and promises to be extremely faithful to the cartoons. The unique blend of cartoon animation and platform action is planned for release in September.

The sequel to the smash hit Brutal Sports Football is marked down for release in October. Entitled Brutal Soccer, this sports sim will feature sly punches, blatant kicks and, according to a Millennium spokesman, is "guaranteed to make Graham Taylor's vocabulary seem appropriate for a vicar's tea party".

Also scheduled for an October release is Neural World. Essentially a PC product, this will appear on the Amiga and will demonstrate that a computer can duplicate a basic brain. Your task is to teach creatures born underground how to survive.

Unlike previous products, the characters in the game will actually learn, and you can see their brains working to prove it. Their mission is to travel around the world visiting strange new regions, which are all based on styles drawn from art masterpieces.

Millennium's Pinkie and James Pond 3 are now nearing completion and should be available in June/July. All in all, Millennium look as though they'll have their hands full through the year right up to Christmas.



Mr Magoo features a unique blend of cartoon animation and platform action and is coming your way in September

System Selections

In this section of the news we list the pieces of software that have been doing the business for us over the last few months, and tell you why they should be in your games collection

Settlers



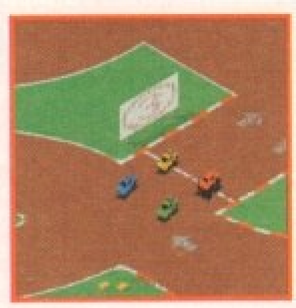
This wonderful "God" game from Blue Byte could well go down as a classic. While it contains elements that liken it to Populous, it's not a clone. Settlers stands up on its own two feet because it has great playability coupled with neat graphics and an especially user-friendly game system.

Cannon Fodder



I love Cannon Fodder and so should you. If you' still haven't bought it then I must stand up and question your state of mind. Sensible Software seem to go on from strength to strength; Cannon Fodder is one of the most playable games ever and also one of the most fun. A fast moving shoot-'em-up of the highest order.

Skidmarks



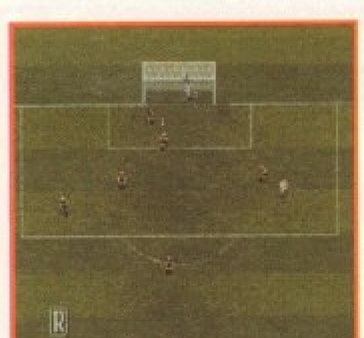
Acid Software's racer has got gorgeous graphics, superb sound, is highly playable and unbelievably addictive. It's a very polished racer that totally destroys all of its competitors. I could go on for hours praising this game, but I really only need say two words – buy it.

Simon the Sorcerer



Adventure Soft's game is cram-packed with puzzles, funny quips and silly asides. While it's a title that you're not meant to take too seriously, it will give you plenty to think about if you're to complete it. Simon the Sorcerer is a very large, well thought-out graphical adventure that'll keep you happy and out of harm's way in the land of giants, fairies and dwarves.

Man Utd Premier League Champions



I've thrown away my copies of Sensible Soccer and Goal because Krisalis have created an ultimately more satisfying football game that will appeal to the true football fan.

The graphics are nicely presented and highly realistic. Couple this with its level of playability and addiction and you've got a hell of a game on your hands. Goal and Sensible Soccer fans will want to have this game's babies. Buy it and float to football heaven.

Labyrinth of Time

The bottom line is that Labyrinth is a superb addition to the adventure genre. It has amazing stylised graphics and a level of depth and playability seldom found in computer games these days.

It's great news for punters who've put faith in Commodore and the CD32 because this is a title which starts to truly show a little of the machine's capability.

The scores on the doors

Our brand new and revolutionary System score system explained

As part of the new look and feel of the software section we have taken a fresh look at the way we score our reviews. In our opinion, review scores have lost their context as percentages; some products have been receiving scores which were only a few percentage points short of perfection, when in truth the products were only marginally above average.

OK, so the scores might seem unnaturally low at first, but that's only because other scoring systems tend to be on the high side and perhaps not as comprehensive or honest as they could be.

In the long run you'll receive a more concise and reader-oriented review that's geared towards the consumer.

0-20 ....This is given to the lowest of the low

21-30......An all-round poor game that may have a single saving grace

31-40 ......Just below the average, perhaps let down by a few indiscretions.

41-55......Games of this score are roughly average with 50 being a perfectly average score.



56-66 ......This is an above average game and is worth buying. For this reason it would be awarded the BRONZE award.



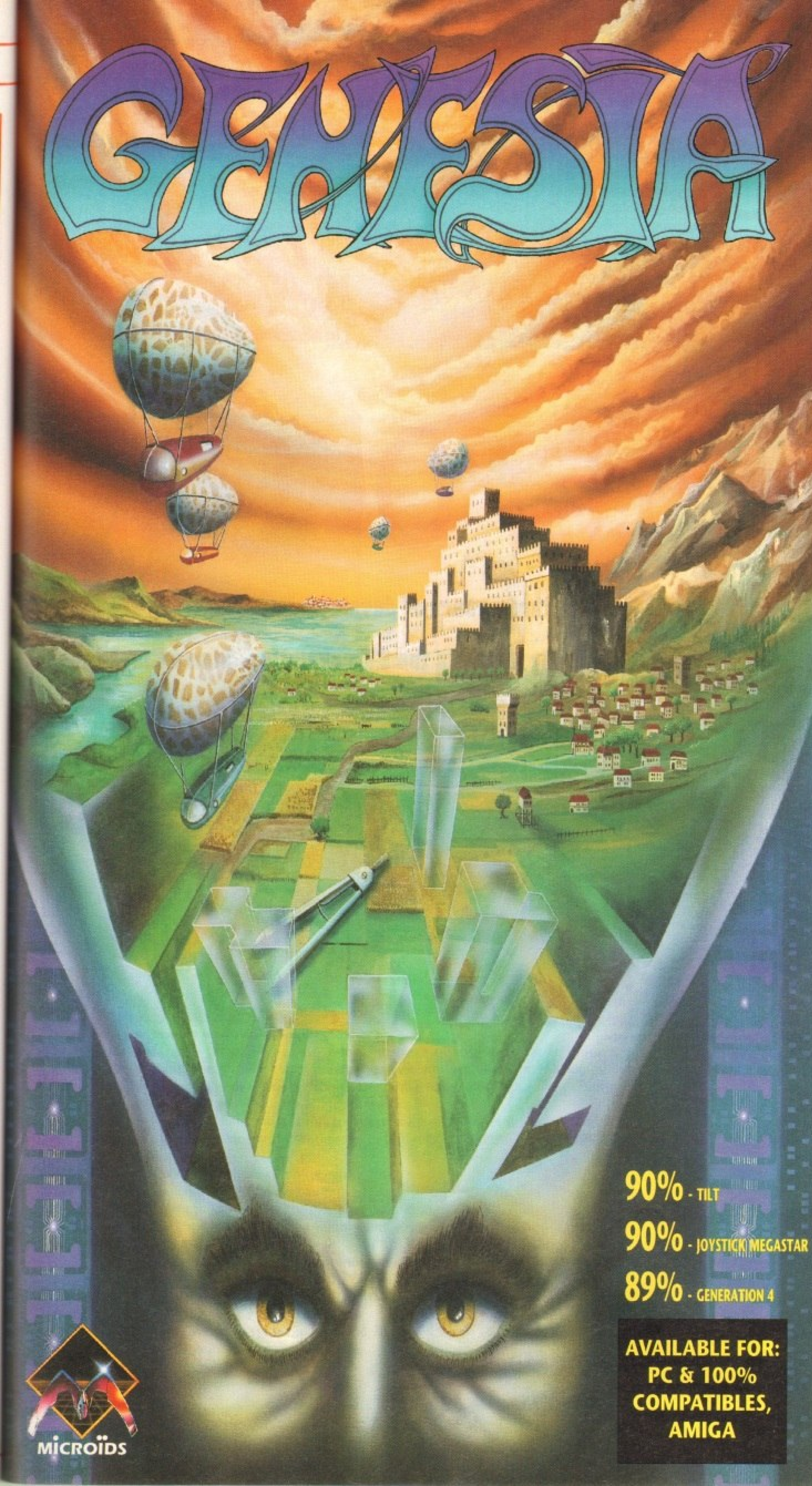
67-77......A game of high quality that we have no reservation in recommending. Anything of this ilk would be given the SILVER award.

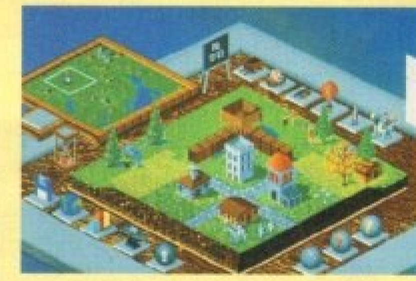


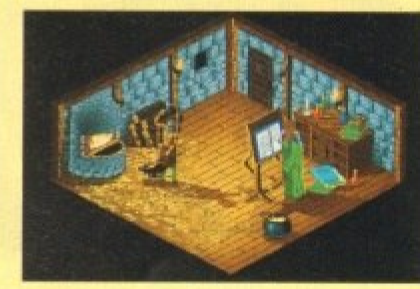
78-89......A brilliant title. Definitely worth buying and almost the definitive of its kind. This standard of game would receive the GOLD award.



90-100 The best in its genre. This benchmark title receives the PLATINUM title.









Genesia - a game of creation and power for 1 to 3 players.

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INTRODUCTION

Since 1984, when Pysgnosis first became a reality, they've provided the video game player with some benchmark products. A quick glance back into the annals of time and names like Shadow of the Beast and the Lemmings titles come into focus.

More recently they've thrilled us with titles like Hired Guns and the very accomplished Combat Air Patrol. In-between times the company has undergone radical change, with the Sony Corporation becoming heavily involved in Pysgnosis's major developments.

To this end the company have always managed to stay at the sharp end of technology. Indeed, while most were wondering which way a CD went into the machine, this Liverpool-based outfit were busy unlocking the secrets of the compact disc.

The first fruit of their labours is Microcosm, a strange montage of an arcade shoot-'em-up, and the movies Inner Space and Fantastic Voyage.

Microcosm

SYSTEM BRONZE AWARD

After three years of development, Psygnosis unveil their first title in the CD revolution. Simon Clays looks inwardly at the miniaturised world of Microcosm

STORYLINE

Set on a harsh, dark, future world called Bodor, Microcosm traces the underworld activities of two rival corporations.

Both Cybertech Inc and Axiom are at the centre of practically everything that occurs on the planet. They both have large mining concerns which dig further into the belly of the planet, systematically raping her of anything precious.

The majority of the planet is uninhabitable, with a high proportion of the population living in a very confined space. Poisonous gases belch forth from the bowels of the earth, a deadly by-product of cut-throat mining operations.

Life is cheap under the corporation regime with little concern for social conditions. In fact, the only thing that matters to the corporations is the title of Corp1.

Just recently, Cybertech's grip has tightened around the prestigious title, and little by little Axiom are falling by the wayside.

President of Axiom, Argon Stark, is desperate to re-address this disappointing situation, and investigates some rather aggressive methods of correcting matters.

It's only following a meeting with one of Stark's right-hand men that a more subtle means of ending the regime is formulated. Stark is introduced to a doctor, who has for some time been experimenting with miniaturisation. He claims that he can send a human being inside of another using his breakthrough in technology.

So the seed of an idea is set. Infiltrate Cybertech's headquarters and inject their president with a mind-controlling virus called greyM.

This would have a back-up system of designer viruses which would attack the vital organs if Cybertech try to meddle with GreyM.

The plan is successfully implemented, but during its inception Cybertech become suspicious, and realise that Axiom have sent an intruder into their President.

A decision has to be taken immediately. After a frantic meeting, Cybertech executives decide to inject a craft with which to fight the assassin viruses.



A panoramic view of the city

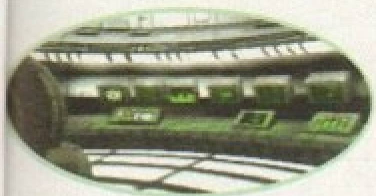


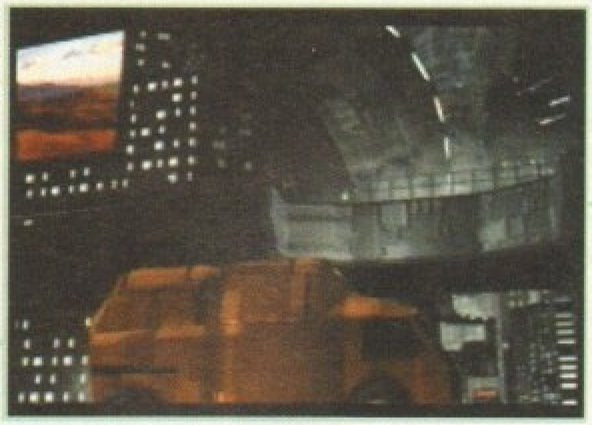
A view of your pod preparing for the next bout of action

Publisher: Pysgnosis
Developer: In-house
CDs: 1
Price: £44.99
Genre: Shoot-'em-up
Hard Disk Install: N/A
Control System: Joypad
Supports: CD32
Recommended: N/A



A ray-traced robot lumbers through the confusion as Cybertech's HQ is infiltrated



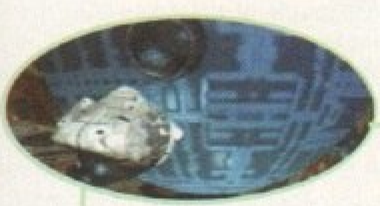


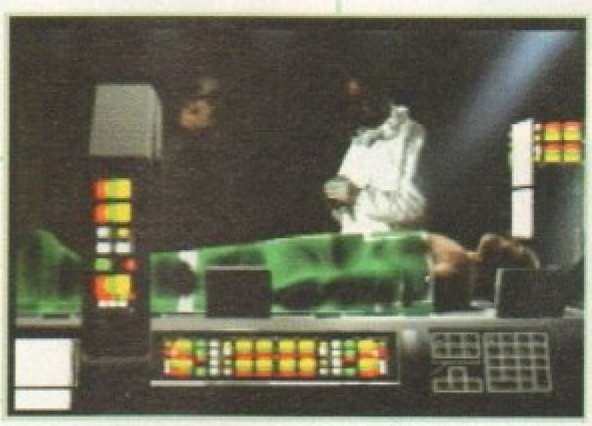
This sequence contained a massive 241 models





Softimage allowed the programmers to achieve depth of field





Pysgnosis used blue screen technique to merge live action and computer graphics

GRAPHICS

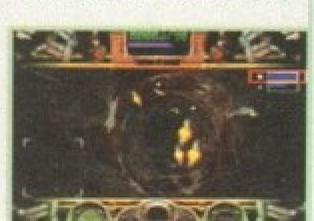
Microcosm is probably the most impressive-looking piece of software ever to grace any Commodore machine. The first thing that greets you when you insert the disc is a 400-second introduction sequence. Rendered on Silicon Graphics machines and featuring a cinematic sequence of ray-traced images, Microcosm is a joy to watch.

The combination of CD sound and superbly constructed images really does put you in mind of a sci-fi movie. Shifting from moody street scenes to hi-tech robotic automatons and helicopters, it's totally absorbing.

The intro also combines real live action sequences which run alongside computer graphics, and add an extra dimension of realism to the piece.

Once into the game you'll find that the play area graphics are of the highest standard too. As you journey around the internal organs via vein systems, you'll be treated to a ray-traced version of Gray's Anatomy.

After the completion of each level you'll see more animated sequences, again rendered using Silicon Graphics and Amiga technology. Even the different craft that you guide through the body have been rendered and texture mapped to add that extra edge.



On a visual level, Microcosm is second to none and, its state-of-the-art look puts it in pole position in the graphical race.

88%

SILICON CINEMA

Before the CD32 laser scanner can wink an optical eye at the gameplay, Microcosm launches itself into six minutes and 40 seconds of stunning introduction.

This *Bladerunner*-inspired sequence is probably the most sophisticated, cinematic piece of computer animation to emerge on a machine for the home.

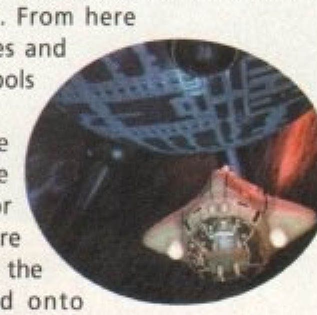
The idea for the introduction was the brainchild of lead visualiser Jim Bowers. Following a brainstorming session, the nucleus of an idea was born. Loosely based on the "inside the body" films like *Inner Space* and *Fantastic Voyage*, the team started initial design work on the Amiga. Then transferred everything across to Silicon Graphics machines.

Using £10,000+ Indego systems, they set about creating the world of Botor. As the footage rolls, the first thing to greet the eye is a street scene.

This incredible section of animation, which features a futuristic truck rolling by and lasts under ten seconds, features 241 models, seven different light sources and over 85, 331 polygons.

Running Softimage on the Indego, a 3D model starts its life as a wireframe skeleton which can be manipulated and animated to ensure that routines are correct.

The next step is to fill the object and show that it has three dimensions. From here the image has textures and added detail like symbols or camouflage applied.



At this point we have a textured 3D image that has no shadow or light source, so these are applied, and from here the image can be pasted onto another image.

Much of the game involves live action sequences Mike Simpson of Pysgnosis explained the technique employed: "The live actors were filmed against a blue screen and then into modelled scenes. For example, in the lab scene in the intro only the actors are real – the whole lab is computer generated."

Using the same technology as used in *Lawnmower Man*, Microcosm had to be reworked from its original FM Towns format. As Mike told me: "The game had to be completely re-written, new and seriously clever code had to be developed to exploit the CD32 hardware."

Much of this technology also went into the reproduction of the game interiors, like the vein walls. Mike was on hand with the biology lesson:

"A tunnel was modelled from polygons and a vein texture wrapped onto the surface. Lamps were set behind the point of view so the scene would be lit in the foreground and fade away into the darkness."

After eight months of re-coding Microcosm for the CD32, work has started on follow up projects, Mike showed me the direction Psygnosis are going in:

"This is an ongoing process for us now. We've learned a lot since Microcosm. Scavenger 4 (which is initially on the FM Towns machine, but will undoubtedly be released on the CD32) is more interactive. The third game in the series will be even more interactive."

The future certainly looks much brighter for Pysgnosis's CD plans than the grim world they portray in Microcosm. Indeed, when I asked Mike about the future of games storage systems, he had this to say about their cartridge counterparts: "CDs are the way forward, and besides, you can't get 500Mb on a cart!"

SOUND

When it comes to aural stimulation, Psygnosis left nothing to chance, and, wanting to utilise the power of CD, enlisted the talent of ex-Yes keyboard player Rick Wakeman.

As with the graphics, the noise that emanates from the CD32 is indeed something to behold. Personally, I don't remember a time when I've heard such a quality soundtrack from a title.

A montage of ambient riffs and beefy dance beats, the Microcosm soundtrack is a pulsating and interesting departure from the norm.

80%





Ray-traced animation at its finest

OPINION 66%

Pysgnosis's first full CD title is a very tricky product to measure or assess. This is because there are two separate entities that exist around each other throughout the entirety of play.

On the one hand you have the cinematic introduction sequence and the sections that roll around the actual play (like level completion or death of your craft), and on the other the gameplay itself.

The first thing to say is that as far as ray-traced sequences are concerned, then Microcosm definitely has it. That's all very well for the first couple of times you turn the CD on, or want to show off to friends.

But, once this has worn off and you start jumping into the play, what are you left with? The answer, again, isn't that cut and dried.

As you first start your epic journey around the body, you are indeed craving for more of those colourful artery walls, and it's even fun watching your own submersible split into a thousand pieces (causing the man you're trying to save massive internal bleeding).

However, humans being humans, we become accustomed to things very quickly. So, once we've witnessed some spectacular visuals, the euphoria doesn't last for long and we need stimulation from the playability.

Microcosm is hard, in fact it's very hard. At times it's too tough, and becomes infuriating when you keep getting stuck at the same point. But that's shoot-'em-ups for you.

As a game, it plays adequately enough, with plenty of blasting action to keep you happy. If I had criticisms, they would be that Microcosm had more power-ups and weapons to choose, and that the internal walls that you guide your ship around had a collision detector.

In terms of product for the CD32, Microcosm is unmissable. It's not incredible, and it's not going to go down as a benchmark title. But in comparison to what else is available for Commodore's new console, it's streets ahead.

As a footnote, it's worth mentioning that as reviewers, we get to see a lot of product, and tend to get a little blasé about software. As an experiment we left the CD32 and Microcosm with some unwitting (normal) people, and they absolutely loved it.

ADDITIONAL INFO

A virus is an infectious particle consisting of nucleic acid (DNA or RNA) enclosed in a protein shell.

Viruses are acellular and able to function and reproduce only if they can invade a living cell to use the cell's system to replicate themselves.

The healthy human body responds by producing an antiviral protein, interferon, which prevents the infection spreading to adjacent cells.

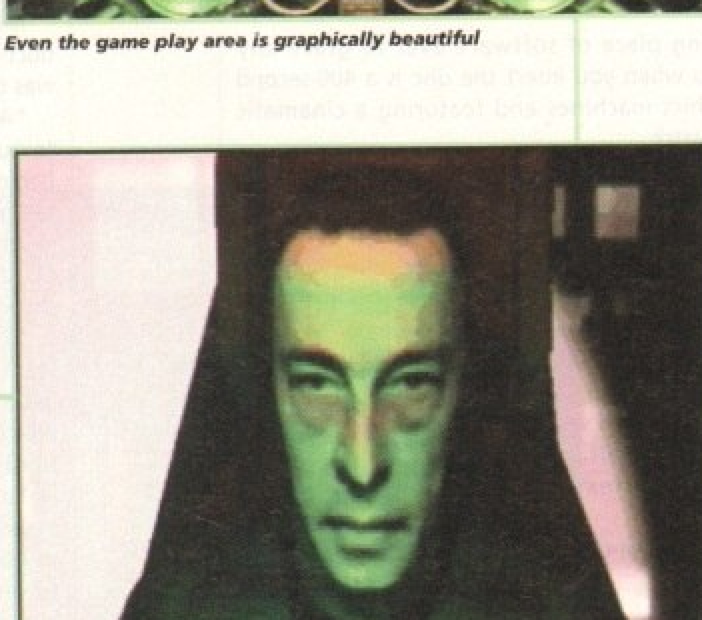
Viruses are most commonly found in seas and lakes, with between five and ten million per millilitre at most sites tested, with up to 250 million per millilitre in a polluted lake. Among the more common viruses are canine distemper, chickenpox and yellow fever.

Discovered in 1971, viroids are even smaller than viruses, and consist of one single strand of nucleic acid. They cause such things as stunted growth in plants and some rare diseases in animals and humans.

The origin of the virus is still unclear, but it is generally believed that they are degenerate forms of life, derived from nucleic acid that has broken away from higher organisms.

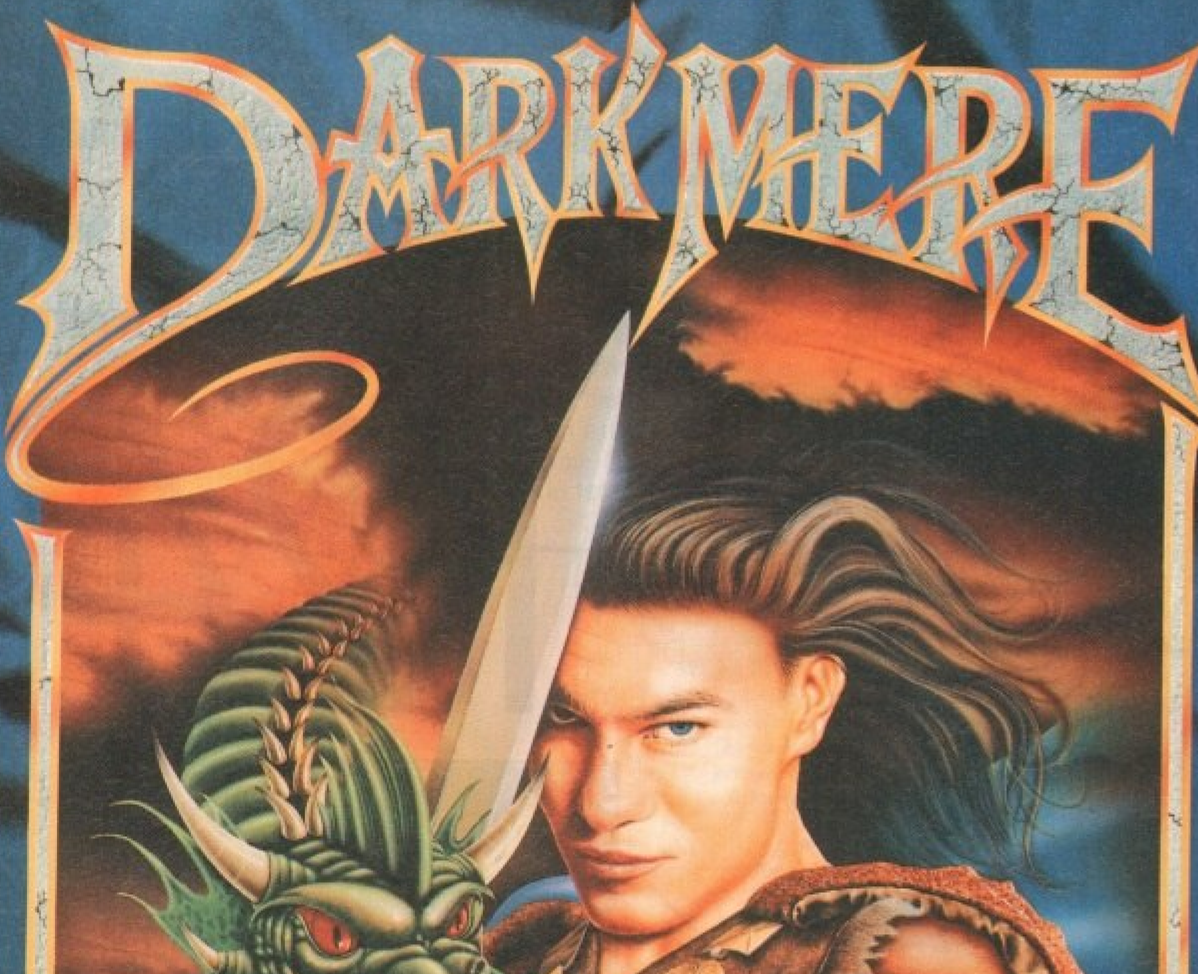


Even the game play area is graphically beautiful



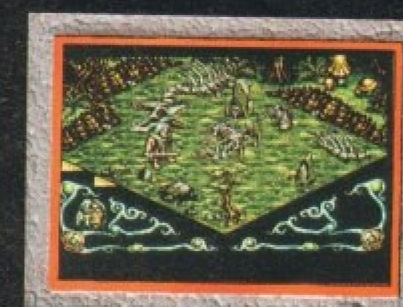
Before your imminent destruction, you'll witness the face of death

The Nightmare Is About To Begin ....



In this 3D isometric adventure you play the role of Ebryn.
As heir to the throne, your dying father gives you the sword with which he slayed the mighty dragon.
Journey through three extensive levels of atmospheric gameplay in your quest to uncover the mysterious curse of the Darkmere and avenge the people of the village - this time for ever.







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DARKMERE
Compatible with all Amiga formats (1 meg only)

K240

Ever wanted to experience the benefits of space exploration and asteroid mining? Well, grab your pick and shovel and join Jonathan Maddock as he ventures forth into the final frontier

SYSTEM SILVER AWARD

INTRODUCTION

Over the years we humans have slowly claimed planet Earth for ourselves. Pieces of land have been fought for and defended. The population is now increasing at an extremely dangerous rate and soon there won't be enough room left for the masses.

Where can the human race go from here? Up is one answer. Up into space where we will discover and colonise old and new planets. But what if someone is out there already? That answer is simple... we fight.

This whole scenario can be lived and played out in K240, Gremlin's sequel to their award winning and critically acclaimed "god" game, Utopia.



Before you start you must choose your alien opponent. In this case I've chosen the Rigellion Confederation and I probably won't last long!



The start of the actual adventure. With only one asteroid in your possession you don't exactly look like you'll conquer the universe

STORYLINE

The Terran Empire governs a vast area of space. Over 1,000 worlds have been inhabited and are home to countless billions of humans, as well as a minor population of alien races discovered during the great expansion in the 23rd Century.

A large imperial company called Tetracorp started out in 2221 manufacturing scout ships and sensory equipment for the Imperial fleet. Its assets grew and it soon realised the potential of space exploration and asteroid mining.

It began developing new techniques for extracting and transporting rare ores mined in the depths of space, which were so successful that by the year 2280 it had grown to own and fill the entire industrial world of Barnard Five.

By the middle of the 24th Century it had cornered the market in mining franchises. It offered packages to anyone with the ambition to take over one of the asteroid fields, known as fragmented sectors, being discovered every year on the frontier of the Empire.

In the year 2380, Sector K240 was made available for colonisation by Tetracorp. K240 is one of the fragmented sectors and occupies a cube of space 50 light years across. As a Tetracorp franchise holder, you have claimed a section of K240 and are ready to begin your mining operations in the asteroid fields.

> How many goodly creatures are there here! How beauteous mankind is ! O brave new world, that has such people in't
>
> *The Tempest, William Shakespeare*



One of the most important points in K240 is to have a decent-sized assault fleet because otherwise you'll get hammered by the opposing alien forces

SOUND

K240 is a fairly sparse in the sonics department. There are several bleeps and bloops occurring every so often to keep your ears active. The best sounds are the smatterings of female sampled speech, which are triggered when an event occurs.

The only moment where the sound goes into overdrive is when you fight against your alien opponent, and World War III explodes across your speakers. But as with the graphics, K240 doesn't really require unbelievable sound effects due to its nature – although a few more effects might not have gone amiss.

56%

Publisher: Gremlin
Developer: In-house
Disks: 3
Price: £25.99
Genre: Strategy
Hard disk Install: Yes
Control System: Mouse/keyboard
Supports: A500/A600/A1200/A4000
Recommended: 68000 upwards

ADDITIONAL INFO

There are thousands of Asteroid, composed of rock and iron, orbiting the Sun. Most lie in a belt between the orbits of Mars and Jupiter, and are thought to be fragments left over from the formation of the solar system.

About 100,000 may exist, but their total mass is only a few hundredths of the mass of the Moon. Asteroids of note include Ceres, the largest known asteroid (9,400km in diameter) and Vesta, which is the brightest as seen from Earth.

The first asteroid was discovered by the Italian astronomer Guiseppe Piazzi at the Palermo Observatory, Sicily, on new year's day in 1801.

FLASHBACK

Trying to find a game to compare K240 to is quite hard. You could in effect call it a "god" game and compare it to Sim City, but that's not set in space. I suppose it would be stupid of me not to compare it to its predecessor, Utopia, but the gameplay does differ slightly.

Utopia was reviewed way back in November 1991 and received a stupendous score of 93 per cent and a bright and shiny Gamer Gold award. The game is pitched in-between Populous and Sim City, fighting an opponent while you attempt to develop a viable city with all its attendant problems of taxation, population control and crime.

K240 is different in the sense that you have to build up a colony and simply destroy your opponent to win the game.





If you can't see what buildings you've constructed then press a key and you'll be presented with an information grid



The second main screen you'll use is the asteroid field screen which displays all the asteroids when your scout ships discover them

OPINION 77%

This is a damn fine space strategy game and a lot better than its predecessor, Utopia. The controls and buttons don't take long to learn and before you know it you're transported to a world of asteroids, mining, space battles and destruction.

OK, so it might not have spectacular graphics or sound, but it has it where it counts and that is in the gameplay and addiction departments. As first it all seems too easy, but after you've captured a couple of asteroids you'll need all your brainpower to cope with the forthcoming problems and events.

I'm finding it really hard to fault K240, but I suppose if you play enough it will eventually get a bit unvaried. This will take a long time to happen because the later aliens are incredibly tough and will demand a lot of experience to beat.

Gremlin's space strategy is a truly engrossing game that will keep you awake until the early hours and I heartily recommend it as this month's game to get your mitts on.

GRAPHICS

The type of game that K240 is doesn't really demand state-of-the-art graphics and to be honest it works a lot better with basic sprites and backgrounds.

There are two main screens which you flick between when playing. The first is the main asteroid view screen. When you begin the game you are presented with a 3D representation of your asteroid, showing rocky terrain and the sole building in your colony.

As you start to build your colony up, scaffolding will appear and eventually, depending on the size of what you're building, will turn into structures. These structures are all presented in a basic colour scheme, but any futurist would be proud of the actual shape of the constructions.

Your colony looks rather pale and flat when compared to that of your alien opponents who tend to have much more extravagant constructions, but that's not really important when you're obsessed with completely destroying them in the first place.

The second view is the asteroid field screen which provides you with a map of all the asteroids. The map, at first, is predominately grey. Somewhere on the screen will be your asteroid and around it will be a black circle. This circle is "known" space and as you progress and explore, the grey map will gradually turn black.

60%

Innocent until Caught

Psygnosis have joined the recent throng of adventure releases with this offering. Tina Hackett goes on the trail of Innocent until Caught's anti-hero, Jack T Ladd



Interaction with other characters is vital. Click on the reply you wish to use

Publisher: Psygnosis
Developer: Divide by Zero
Disks: 10
Price: £34.99
Genre: Adventure
Hard disk install: Yes
Control system: Mouse/keyboard
Supports: A500/A600/A1200
Recommended: 68000 upwards

INTRODUCTION

Adventure games are a popular genre and many titles are released constantly, all clamouring for a place in our collections. Psygnosis, however, are relatively new to the adventure game scene, their only other similar offering being the excellent Hired Guns, a 3D, horizontal parallax effort, set from a first-person perspective.

Developers DMA Design were the brawn behind Psygnosis's first attempt but for this release they've called upon the skills of Divide by Zero. A two-man development team, Divide By Zero have tried to create a game inspired by a more theatrical view point but with total player involvement.





Some of the items found can be used on each other, such as silver foil used on a coin will produce a fake token needed to travel the Subway



The control panel, notice how cluttered the inventory gets

STORYLINE

We find ourselves in the future, on the planet Tayte taking on the character of Jack T Ladd. His name actually gives you a good idea as to the main theme to the game.

As an average Jack the lad, his character traits are all those that you would find in your stereotypical lad, plus, in this case, tax evasion and all manner of misdemeanours against the state.

His indiscretions have been spotted by the IRDS (the Interstellar Revenue Decimation Service – a corrupt and powerful federation department) who are none too pleased with Mr Ladd's activities and give him 28 days to come up with the money to compensate for his wrong-doings.

Punishment for failing to do this results in some unpleasant form of torture, so Jack heads for the nearest bar planet to drown his sorrows, armed only with his tax demand. You, taking on the role of Jack, need to visit all manner of locations and interact with the various characters to raise the necessary cash.

FLASHBACK

As Innocent until Caught is your typical point 'n' click adventure it is inevitably going to be compared to releases like Monkey Island and its sequel. The game does to some extent try to emulate this title in that humour is incorporated at every available opportunity, but while Monkey Island was witty, Innocent is at times crude.

First impressions seem to suggest that you're embarking on the thinking man's Leisure Suit Larry, with its seedy locations and style of humour, but whereas Leisure Suit Larry was a title designed for the odd giggle, this one seems to try to hide its blatant double entendre-ridden street humour under the guise of a serious, atmospheric adventure.

The jokes such as "Are you over 21? – What, years or centimetres?" wear a little thin after a while. The recent hit Simon the Sorcerer wins over Innocent both graphically and in humour, and Beneath the Steel Sky compares more favourably in both its atmosphere and its puzzles, which require a lot more thought than Innocent until Caught's rather linear approach.

SOUND

The soundtrack has obviously been composed to complement the gloomy, futuristic atmosphere and does to some extent do this. However, it is so lacking in appeal that reaching for the volume control is the only viable option.

It soon becomes disappointingly apparent that the game lacks any sound effects. The game would have benefited enormously from the inclusion of some form of effects rather than the dire accompanying tune.

30%



All walks of life are within this game. Ladies of the night may help or hinder you

ADDITIONAL INFO

A storyline based around tax evasion is certainly a novel one for a computer game but throughout history the notorious stories of tax-related problems and evasion are in abundance.

Tracing it right back to the tales of Robin Hood, one of the oldest cases of taxation problems occurred when King John charged his peasant subjects over the odds in tax.

Modern times are also ripe with cases of tax evasion, especially those of the rich and famous. More recently you may remember the entertainer Ken Dodd was in the headlines for allegedly defrauding the Inland Revenue. He was acquitted in July1989.

Others have not been so fortunate. Lester Piggott, the successful British Jockey, was jailed for three years in October 1987, after admitting a huge £3.1 million tax evasion swindle. Innocents' theme plays on our fears of the future, of misuse of governmental powers and on a topic that affects us all, rich or poor.

until

The scan icon allows you to look around the screen quickly



GRAPHICS

Innocent until Caught is a visually stunning game and a great deal of detail has gone into the backdrops. The graphics are in a style that rather than trying to create total realism opts for a more stylised, sketched look.

This works well in creating the futuristic feel of the game. The layout of the screen is clearly presented and so vital action is never missed. The auto-mapper screen becomes a very useful feature especially when you need to make a hasty exit.

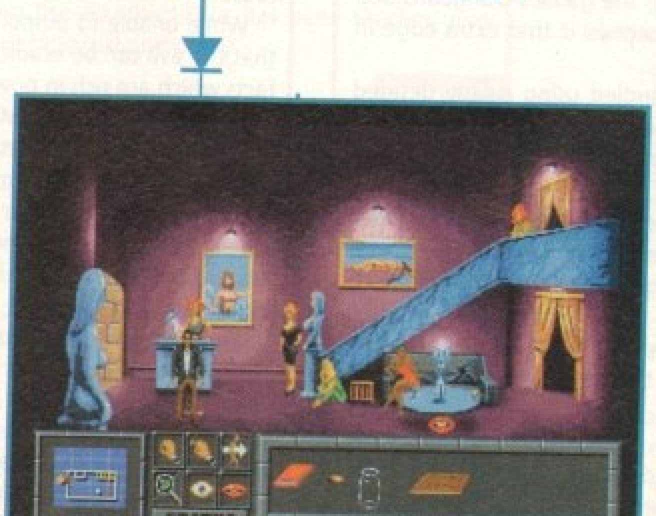
However, the inventory screen has been badly designed in that you simply place all collected objects on the panel. After a while the panel becomes very cluttered and some of the objects become obscured so it is easy to miss some of your inventory.

The screen alsoupdates at a painfully slow rate at certain points in the game which spoils the flow and becomes frustrating.

65%



The status screen will give information on your progress



Try your charm on characters at first... they may respond better

OPINION 45%

While Innocent until Caught is in the main a blatantly mediocre adventure game, the many locations and film-based style of story add interest to this title. The sub-plots and episodic style of the game work well and provide some variety.

Its longevity is marred by the puzzle element which is a little too straightforward. For example, a character will tell you an object they want, you will find it and then be rewarded with an object another character wants.

The control system also leaves a lot to be desired. The mouse pointer needs to be placed very precisely before it will let you carry out any actions. It is also very slow to recognise what you wish to click on. The style of humour, although an unusual novelty at first, becomes rather tedious and verges on the immature.

The interaction with other characters is at times a little predictable and slow. Innocent, although not highly original in its approach or gameplay, does have its worthwhile moments and does evoke some feeling of excitement when you think you're on the verge of discovering another clue.

Legacy

After a series of successful board game conversions, Gremlin are back with the second in the Hero Quest series. Here Simon Clays enters the fantasy world of the Legacy of Sorasil



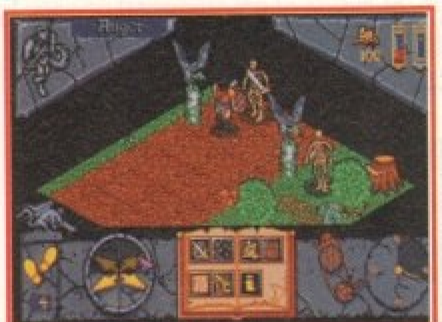
INTRODUCTION

Back in the late '80s, Hasbro's Hero Quest board game series bridged the gap between traditional die-rolling gaming and the more surreal world of the role player.

Hero Quest combined a complicated system of rules with the more contemporary board game philosophies. This fusion proved to be an instant success, and Gremlin Graphics of Sheffield seized the opportunity to produce a computer version.

An exact replica, the computer variation set you on a series of missions, but rather than a "dungeon master" negotiating your fate, the computer handled your 3D isometric decisions.

Data disks were added and awards were collected, but then everything went quiet on the fantasy front. Now, after two years in development, a whole new series of adventures with a totally revised play system are set for launch, the first being the Legacy of Sorasil.



Each character has 20 action points to exhaust if they wish to



Combat is implemented by clicking on the sword icon, and then on the character you wish to attack



Further action points are expended if you decide to carry out a search

GRAPHICS



Like its predecessor, Legacy of Sorasil is viewed from a 3D isometric perspective. This method of display is not only effective for employing the game's Dungeons and Dragons style rules, but also gives it that extra edge in appearance.

The animation is well handled using clearly defined character sprites which leaves the user in no doubt as to who is who. While they're a rather clichéd set of extras from a Tolkien book, the style suits the mood of the plot.

Each scenario places you in a different location, so you'll never find the landscapes repetitious or boring. For example, the first level places you in the gloom of a vampire's barrow, as opposed to further challenges which find you in forests, marshes and castles.

The legions of darkness are also in vast abundance and like the scrolling backdrops, vary from location to location. Likewise, all the varying denizens of evil have different combat animations.

Apart from physical combat animations, Legacy of Sorasil features a whole host of animations for use of magic. While limited in the early levels, as you progress to the higher stages the screen comes alive with various spells, both from your battle-weary characters and the foes you face.

64%

STORYLINE

The once great empire of Rhia lies dying under a vicious stranglehold of evil. The land is overrun with corruption and pestilence; harvests have failed, livestock lies diseased and dying, and even the most arcane of magics has failed to halt the spread of evil.

In a bid to stop the malignant curse which haunts the land, Alamon the Mystic, noble sage of Rhia, uses his skills and detects the source of power that is the root cause.

While unable to pinpoint its exact emanation, Alamon comes to the realisation that the evil can be eradicated, but it will take the power of several long lost artefacts which are rich in power.

Beyond the Shadow Mountains lies the land of Kolchoth. Once a place where sultans and demi-gods resided in palatial splendour, the land lies in decadent ruin, a sad reflection of its former magnificence.

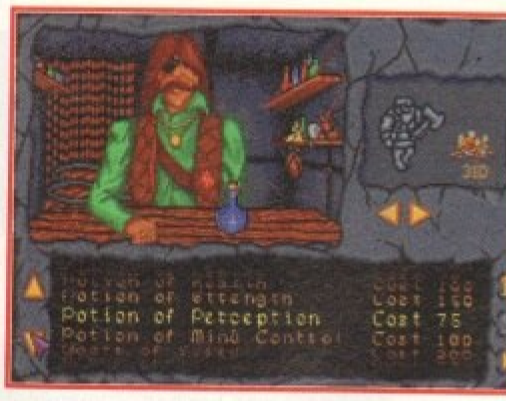
This once royal country was home to two ancient talismans, each of which is capable of reversing some of the evil. Beyond Kolchoth, in the land of Garathor, lies the amulet of Tambor-Rin, a powerful healing tool and necessary for Alamons' plan.

To defeat the evil powers he also requires the might of the Oracle Stone. Legend has it that even deeper into the lands of darkness, in Iron-Wood Forest, the stone lies.

Alamon realises the task in hand is no easy one, and sets out to find warriors and mages capable of overcoming such hardship.

After searching the length and breadth of the country, Alamon finds eight brave folk. However, only four can be selected to embark on the perilous journey.

Publisher: Gremlin
Developer: In-house
Disks: 3
Price: £25.99
Genre: Adventure
Hard disk install: No
Control system: Mouse
Supports: A500/A600/A1200/A4000
Recommended: 68000 upwards



There are three stores where you can buy and sell booty



One of the sub-plots places you in a boggy marsh, trying to negotiate your way through its murky depths, fight and uncover a hidden relic

of Sorasil

FLASHBACK

While there aren't too many titles that have employed this 3D isometric viewpoint, a few software houses have attempted this style, some more effectively than others.

Probably the definitive title in this category is Krisalis's Shadowlands (*Amiga Computing* April '92) which was given the old Gamer Gold award. Others include the fairly average Legend and the outstanding Cadaver from the Bitmap Brothers.

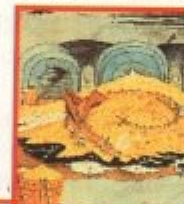
ADDITIONAL INFO

Many of the influences in titles of this nature come from the original ideas of J R Tolkien. John Ronald Tolkien was an English writer born in 1892.

He created the fictional world of Middle Earth which featured two major works, his 1937 classic, *The Hobbit*, and his epic trilogy *The Lord of the Rings* written from 1954 to 1955.

His lands were populated by strange peoples like hobbits, dwarves and goblins. Tolkien's works developed to cult status in the '60s, and due to his popularity he had many imitators.

At Oxford University he was professor of Anglo Saxon from 1924-45, and Merton Professor of English until 1959. Tolkien died in 1973, without really knowing the full extent he would have on the worlds of role-playing and video gaming.



SOUND

Legacy of Sorasil contains two very different ways in which the sound can be utilised. You can play to the accompaniment of a rustic tune or choose to use the FX option.

While the tune has a very dire dowdy edge to it, it does contain a great deal of atmosphere and mood that offsets the visual aspect of the game very nicely.

Conversely, you can opt to use the sound effects which give that extra dimension of reality to combat, as swords clash with a samples crunch and spells boom as they rain down on the recipient. Both aspects of the sonics within Legacy of Sorasil are very strong and work extremely well within their context.

While it's not a major criticism, it's my personal opinion that the sound would have been that bit more special if the programmers could have involved the two elements together.

However, this Utopian ideal may fall flat on its face as the standard of sound and sample independently is very high.

It's worth remembering that because of memory restrictions, had the two been integrated then the standard that has been reached may have dropped drastically.

67%

SYSTEM SILVER AWARD

OPINION 67%

This first venture in the Hero Quest Masters series is leaps and bounds ahead of its older brother, the original Hero Quest. The most obvious major improvement is the combat system.

In the original title when you're involved in a fight to the death the scene cut to a special combat screen. Now, when you're attacked or choose to fight a foe, the action continues in the environment you are exploring. This might seem trivial, but adds both continuity and atmosphere.

Really, there are that many changes from the original that the two are beyond comparison, and you can certainly tell that it's been in development for two years.

Although Legacy of Sorasil is split down into ten different adventures, each one relates to an overall plot. This works exceptionally well, as your characters develop and are awarded extra points to their various attributes.

Legacy is also very easy to pick up, using a point-and-click system in conjunction with the mouse. This is typical of every aspect of Sorasil – generally it's easy to use and even easier to find yourself absorbed within.

This combination of D&D style rules blended in with the visual aspects of combat and spell-casting will make Hero Quest Masters an instant success to RPG lovers.

Playing the



Companies have been quick to exploit the unique advertising medium of the computer game. Simon Clays investigates the issues surrounding this newest method of selling your products

Advertising is everywhere, in every corner of all of our lives. In an average day your senses will be assaulted constantly as you make your way through what some would consider a minefield.

If you walk down any high street in practically any town in Britain today, you can expect to be bombarded from every direction. The most obvious advertisements will be visual stimulation from posters, screens and displays featuring attractive icons and slogans that stick.

In all probability this visual attraction will be supplemented by sounds formed into jingles or tunes that clamp themselves to your consciousness. The bottom line is that if people remember a particular tune or picture and associate it with a product, then this can be deemed a success.

This is the more obvious form of advertising on the street, but there are other ways of penetrating the senses. Supermarkets and fast food chains now use smells to stimulate a purchase. For example, a supermarket without an on-site bakery might deliberately waft an artificially-manufactured smell of fresh bread into the street to get people into the aisles.

However, this is nothing new. Ever since man has had goods to trade he has competed with the next trader to sell them; it is the nature of the beast to advertise in a free market.

Perhaps the biggest innovation for the advertising world was the mass production of the television set. While the cinema had been a large vehicle for advertisers, it still didn't grant access to the home.

Once established in the home, TV advertising grew and became a multi-million pound industry, with a product's success and failure not down to its quality, but down to the exposure and success of its advertising campaign.

This has now reached such an intense level that companies now even sponsor programmes that fit the image of their particular product. For example, the ale-drinking CAMRA member Inspector Morse is funded by Beamish, the stout manufacturer, whereas programmes such as the weather have sponsorship from companies like Powergen.

But as well as advertising's merits of making people aware of new innovations and products, there is also a darker side.

Such things as misleading product claims and brand stereotyping are two examples of practices that the advertising world's governing bodies, The Advertising Standards Authority (ASA) and the Committee of Advertising Practice (CAP) co-ordinate the fight against.

Together they instigate the British Code of Advertising Practice and have gained legislation to rid us of brainwashing techniques like flash advertising.

Banned because of its frighteningly effective method of persuading customers to buy products, this subliminal method places an engram-like image in the brain leaving the customer little or no alternative but to buy.

However, as technology has expanded through the home, so has the advertising potential. Perhaps the greatest growth expansion has been in the home computer market. Here in just short of a decade, prices have crashed as technology has gone through the ceiling.

Graphics, sound and memory chips are now so powerful that complicated images can be rendered and accurate sounds manufactured very quickly and economically.

One of the largest growth areas is in the computer game market, where both youth culture and adults alike sit in front of screens interacting and involved with on-screen sprites. It seems that this audience is a captive market and one which can be targeted extremely accurately using a relatively cheap form of advertising.

One of the first people to spot such potential was Danny Bobroff, whose company Microtime Media are now at the forefront of licence tie-ins and product placing in computer games.

The idea came some years back when Danny, who's a computer games enthusiast himself, was sat glued to a monitor screen.

"One night I was playing Kick Off. I was a Kick Off freak, and it came to me: There should be proper ads on such things as the side hoardings of the pitch, after that the idea just grew and grew.

"At the time I was working in advertising, and I'd spent a number of years working in the industry examining and developing new mediums to advertise in."

At first, although Danny was completely convinced of the concept, both software houses and manufacturers were dismissive.

"Although I never doubted that computer games would be a successful medium to advertise in, I never knew if I could survive long enough before the idea took off, but I knew someone would succeed."

DISCUSSIONS

The first success Microtime Media achieved was between United Biscuits and Millennium Interactive Software. After discussions with brand management for the Penguin biscuit and managing director of Millennium Michael Hayward, a deal was struck.

In the game, one of the objects of your Pond character is to walk over penguins which lie around the levels, and there are also loading animations which feature a selection of the aquatic biscuits.

At the time Millennium were a relatively small developer, and involvement with a strong brand added promotional weight and a larger audience to Millennium's James Pond Robocod character.

Keith Smith of Millennium explains how the tie-up came into being. "The initial idea was given to us by Danny Bobroff of Microtime Media. He'd lined up United Biscuits and told us that they were interested in reaching a certain age group via a games medium. James Pond just happened to be reaching exactly that same targeted group."

Being the first game ever to feature a product tie-in, James Pond 2 was an experiment that was under the microscope not only of the companies involved, but the whole of the fast-moving consumer goods and software industries alike.

Fortunately for both Millennium and United Biscuits, Pond was a tremendous success, having now reached the million sales mark over just about every format conceivable.

This all sounds extremely straightforward, but there were slight hitches and compromises during production on both sides, as Keith explains.

"Once the tie-up had been agreed, the graphics had to added. This meant that certain demands from the client were not possible, due to the complexity of the programming."

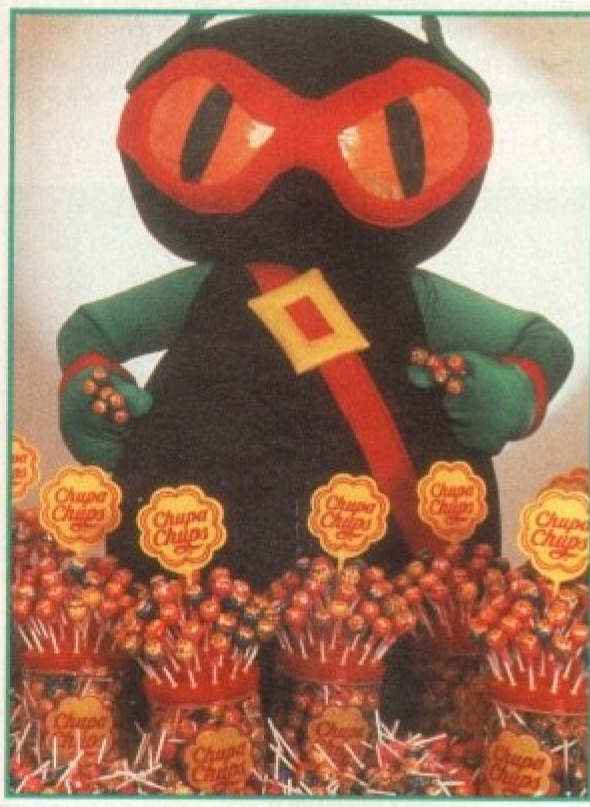
However, compromises were found and it materi-

advertising game

alised that as a promotional idea for the Penguin brand, United Biscuits were extremely happy.

The benefits to a company that spends vast quantities of money researching its consumers were that this method of below-the-line advertising allowed them to reach a finely targeted audience.

A measure of the success has been the number of subsequent developments which feature licence tie-ups. Certainly companies like Microtime Media and Danny Bobroff don't have the same problems convincing manufacturers of the massive potential of advertising within this framework.



Since the birth of the idea with the Robocod concept, there have been many follow up tie-ins, quite a few the brainchild of Mr Bobroff.

Most of the major players in the software industry have now had games which feature some form of advertising tie-up. Although Microtime Media haven't been responsible for all of the tie-ins, there's quite a few famous games which Danny has been responsible for the advertising aspect of.

United Biscuits featured again in Olympic Gold; Pepsico and Duckhams Oil featured in Formula 1 Grand Prix; and perhaps the most famous of all is the Chupa-Chups lollipop tie in with Gremlin's Zool. Although only the sweet level featured advertising for the lollipop company, it worked extremely well.

So successful was the Zool and Chupa-Chups relationship that plans are afoot for some heavyweight promotions. As Gremlin's Steve McKevitt told me:

"It worked so well that Chupa-Chups European promotion for 1994 will incorporate Zool and Zool world as a key element. As we speak retail and consumer promotions are now being planned."

Another one of Microtime's successes was the Ocean and Walkers Crisps tie up. Using the Quavers brand and the Colin Curly character, Ocean devised two complete puzzle games.

Both Pushover and its younger brother One Step Beyond put the crisp-loving Colin on a quest for his favourite snack, and as Danny states: "It was a whole new games engine that carefully wrapped puzzle play with advertising as Colin attempted to reach the Quaver zone."

Since this advertising revolution, software houses themselves have been quick to approach manufacturers with ideas for tie-ups.

One of the most successful direct tie-ups is Gremlin's Lotus trilogy. This slick, scrolling racing game featured two of Lotus's most prestigious cars. While Gremlin had a very fast, detailed set of codes, they felt the game needed more, as Steve McKevitt explained:

HIGH PERFORMANCE

"It was our idea to link the product with Lotus, we felt it would benefit from the involvement of a real high performance car manufacturer, and let's face it, if Lotus 2 had been called split-screen racer, people wouldn't have identified with it."

The tie in with Lotus enabled Gremlin to use imagery and artwork of real cars as well as being able to use useful information regarding performance.

As part of the deal, Lotus supplied promotions featuring the actual cars, and in return Gremlin had to follow a few stipulations.

As Steve told me: "The only parameters Lotus laid down was that they did not want the cars to be smashed up during play. So in this game if a car leaves the track it bounces back into play, rather than exploding."

Others who have previously majored their attentions on film and television advertising have been quick to spot the potential that computer games offer.

As Richard Robson, director of JAC Publicity and Marketing, points out: "The major FMCG companies now recognise this area as an important new medium,

Tied up in knots?

Goal • Virgin
Features Adidas logo and ball



Bill's Tomato Game • Psygnosis
Features Heinz tomato ketchup and included a free sachet



Global Gladiators • Virgin
Included lots of gratuitous McDonalds style tie-ins

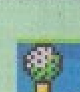
McDonaldland • Virgin
Speaks for itself!



Cool Spot • Virgin
Tie-in with 7-Up logo



Jaguar XJ220 • Core Design
Arcade Racer using Jaguar's state-of-the art auto



International Champ Golf • Ocean
Tie-in with Pringle golf sweaters

Soccer Kid • Krysalis
Tie-in with Golden Grahams breakfast cereal on Soccer Kid's football top

that is, a great way of targeting a specific market."

Like a great many of us, you're probably not only questioning some of the ethics involved, but also, what's actually in it for the games player. But the software houses, and companies like Microtime Media and JAC, are quick to respond to both of the aforementioned notions.

They all believe very strongly that the concept of advertising in computer titles is a healthy idea and good for the industry.

As Keith Smith says: "I can't see why people should think of it as an immoral practice. Young people are being subjected to more advertising messages than ever before.

"This is not a bad thing, it's just progress. If games are to be singled out, then once they've been torn to shreds the spotlight will fall on the likes of Take That or Jurassic Park."

Martyn Brown of Team 17, the company responsible for Superfrog and its tie-up with Lucozade reiterated the point.

"I don't think it does anybody any harm as long as the advertising isn't detrimental to the game."

MULTI-NATIONALS

The industry is adamant that games players can only benefit from tie-ups and sponsorship from large multi-nationals. Involvement with such companies brings in much-needed development money which brings a higher standard of software to the player.

Danny Robroff explained some of the benefits to the games player: "Each campaign always features some benefit to the consumer. For example, in One Step Beyond a whole new engine was designed for the game, and it was still launched at the reduced price of £19.99, about ten pounds cheaper than most software.

"Penguin Biscuits featured such things as free Mega Drives and free copies of Pond, and also on-pack offers giving gamers £10 off software titles."

On the opposite side of the fence is the notion that games players are being exposed to a high level of advertising when they boot up their computers.

In television, people are exposed to short sharp explosions of hard-sell advertising; in computer games the sell is a lot softer. This is because the player very often sits at a monitor for over two hours and can therefore be subjected to much more subtle messages.

One of the key dangers are the false claims element of advertising. For example, in a game such as Superfrog, when our green friend walks over Lucozade bottles he has his energy restored to its full status. Although the product does make similar claims, this potentially could lead children into believing such a notion is completely true.

This, however, is the tip of the iceberg in comparison to the prospects the future brings. Technological breakthroughs such as compact disc – with the ability to run such things as full motion video – open up new dangers for use by the unscrupulous.

At the moment in the United Kingdom there is absolutely no legislation regarding computer games. This means that techniques such as flash/subliminal photography, which was banned as an advertising medium on television years ago, can still be legally used within the framework of such things as computer games.

Although no-one has yet to test the authorities, Richard Robson admits it's just a question of time: "It's highly possible that some unscrupulous operator will do it at some time."

Indeed, such is the concern of advertising's governing bodies, that they have set up Project 2000. The main aim of this commission is to investigate all areas of new technology media, but included in this bracket is computer software.

Following a meeting with advertising's governing bodies, software houses and companies such as Microtime Media, it was decided that while there is no immediate dissatisfaction, the industry needs a code of practice to cover the future.

As Fionnuala Tennyson of the Advertising Association said of the software industry: "Legislation at the moment is not good enough with the strong element of advertising that is developing."

In the immediate future it's highly likely that products such as word processors and art packages will pick up advertisers from companies manufacturing items like pens and paper.

Reaching further forward into the realms of virtual reality and neural networks, like those written about in books such as William Gibson's *Neuromancer*, then a totally new can of worms opens up.

VIRTUAL REALITY

The potential within this new electronic society for advertising is huge, and the day of VR worlds isn't as distant as you may imagine.

Soon, you'll don your headgear and journey into a new world within your front room. A world where electronic ad hoardings will beat out their neon messages, across the hum of a chip-controlled neural city.

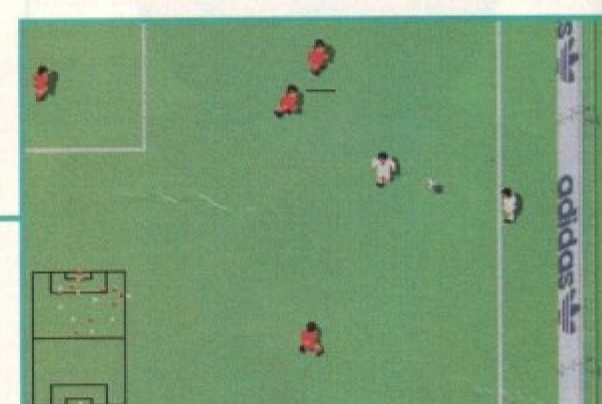
This could be a world full of possibilities, but also is likely to be crammed to the brink with just as many messages as your everyday high street, with every sense interfaced and interfered with.

This doesn't mean we're necessarily heading for some Orwellian nightmare, because the advertising world, the software industry and companies like Microtime Media all want to see a code of practice introduced.

But as in so many other areas, technology is out-running the law, posing new moral questions which demand rapid sorting out and translation into workable legislation, before the damage has already been done.



Performace statistics are an advertiser's dream when selling a sports cart



Can you kick it? Yes you can. But not in goal you can't

It's an ad, ad, ad, ad, ad world



Zool • Gremlin

Features the popular lollypop Chupa Chups on the sweetie level. Promotions have free lollipops on mags, and such was the success of the tie-up that the whole of the Chupa Chups European promotion for 94 will feature Zool.



James Pond: Robocod • Millennium

The first game ever to carry advertising has now sold over a million copies across all formats. The deal featured a tie-up with United Biscuits and their Penguin product. During play you use your Pond character to rescue various penguins across the multitude of levels.



Lotus Trilogy • Gremlin

Gremlin needed a strong brand to launch their racing title, and so approached Lotus. Such was the success that a total of three games have raced into pole position in the public eye. Gremlin benefited from promotional support such as Lotus cars at trade shows and high speed test drives.



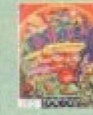
Formula 1 Grand Prix • MicroProse

This tie-up featured both the PepsiCo company and Duckhams Motor Oil. Though not featured directly in play, the game includes some screens that feature the products.



Superfrog • Team 17

The Superfrog tie-in was the brainchild of Team 17. They approached Smithkline Beecham who manufacture Lucozade, the idea being that the magic potion that Superfrog drinks is similar to Smithkline's best-selling product



Pushover/One Step Beyond • Ocean

These two games feature the Walkers Crisps advertising character Colin Curly. During play your objective is to guide Colin through a set of puzzles until he reaches the Quaver zone.

Introduction

The popularity of football has meant that it affects most people's lives in some way. Loathe it, or love it there's no way of escaping it – especially now, when it's brought to our homes via the technology of home computers.

There are an abundance of football games from the management/strategy types to the arcade/simulations. Both are becoming increasingly popular with your average gamesplayer which inevitably means hungry software house trying to cash in.

All manner of football games are continually released as the software companies compete for your cash, resulting in vastly differing standards from the good, to the bad, to the very ugly.

As a multitude of football simulations have been released, stretching back into the distant and murky past, it would be hard to give a full, comprehensive guide to every sim ever released, so we've picked out some of the best and most acclaimed of more recent times. Dini and Dini Productions and Sensible Software brought us the two most acclaimed titles that led to the battle of the giants – namely the heated competition between Sensible Soccer and Kick Off – in their quest to be the definitive football sim.

Other contenders in the fight were Krisalis's licensed releases, the Manchester United games, and it wasn't long before Ocean got in on the act too with their offering European Champions. All boasted playability, dozens of options, and fine graphics.

Not to be outdone by each other, sequel after sequel hit our shelves, along with many updated versions and data disks. It became more complicated for the average gamer to find what he wanted from a football game.

Life, far from becoming easier, is set to confuse even more with many of the promised forthcoming releases so we've separated the best from the rest from the past, present and future and rounded them up for your deliberation.

Part one of our feature deals with what is currently on offer and next month we'll be looking at forthcoming releases.

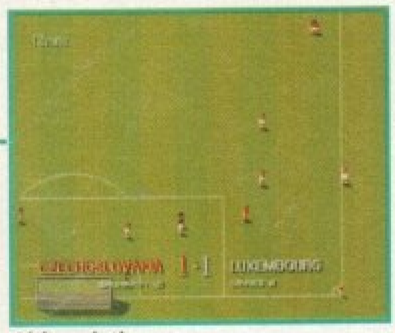
system analysis



Tina Hackett and Adam Phillips go football crazy, football mad to bring you the biggest and most comprehensive football feature around



Fantasy



Although the sprites are relatively small, they are easy to control

Sensible Soccer (Renegade)

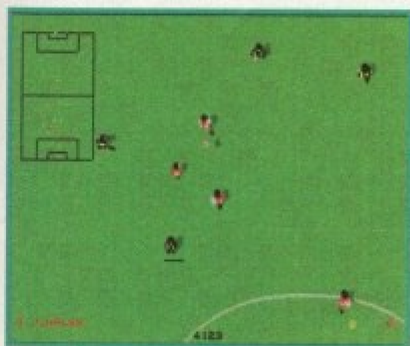
Sensible Soccer came on the scene to challenge the Kick Off releases. The games world was amazed by the wide range of options and the authentic atmosphere.

Samples of crowd chants, gasps and boos along with sirens and drums create that all-important football atmosphere. The game is viewed from a slightly elevated position so there is no need for a radar or scanner. There are many options to choose from in Sensible Soccer, such as seasonal weather, match length and fully changeable teams. The sprites, although smaller than the norm, are still very detailed and easy to control. The game's appeal lies in its sheer playability and immediate controllability.

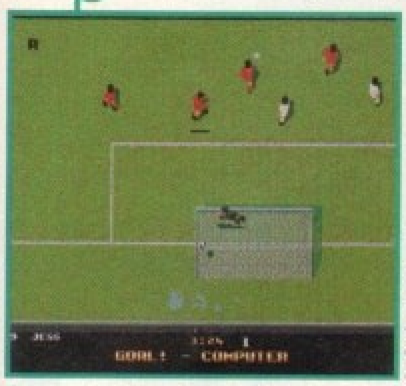
The game plays at a reasonable pace too, giving the player more time to plan shots, and thus giving a greater feeling of control.

Football

Kick Off/Kick Off 2/Goal (Anco/Virgin)



The pitch options in Kick Off 2 include normal, soggy, wet and artificial



The variation in the keeper's reaction speed and accuracy can be altered

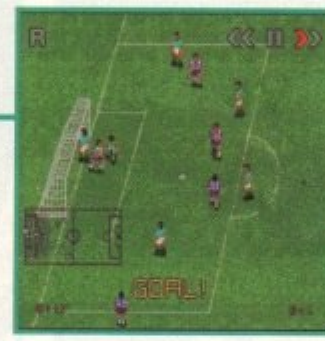
Dino Dini is the man behind the Kick Off series. The first offering set new standards in football gaming as we know it. The second went on only to better this and wowed many a games player with its sheer controllability.

Things went from good to very good for Dino Dini with a third Kick Off in the making, but with Dino parting company with Anco, publishers of the previous Kick Offs, the licence was taken up by Virgin and the game given the new moniker Goal.

Goal impressed with its improved graphics, enhanced sound effects and frantic gameplay. View of the pitch can be switched between a close up or conventional overhead view.

Match atmosphere is generated through 100k of sound effects such as supporters responding to the play, for example, cheering, if a player takes a shot on goal.

Although Goal is at first not as easy to control as Sensible Soccer, once mastered you can produce some very rewarding moves. Being able to "trap" the ball and then kick it in the required direction needs practice but results in spectacular accuracy.



The tactical element can be adjusted via the Tactics Editor screen



View your goals through the Video Replay mode

European Champions (Ocean)

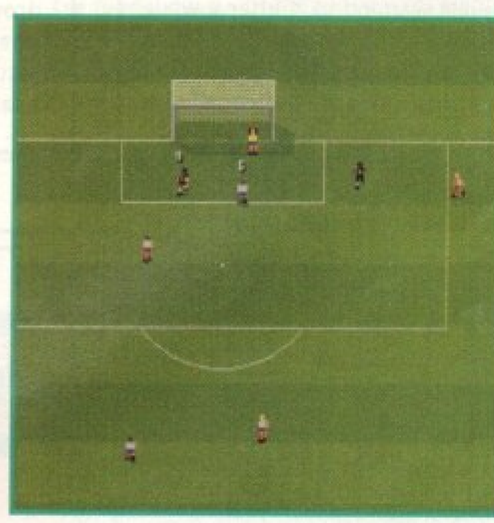
Recently released is this third Krisalis Manchester United licence, and from the looks of things it promises to surpass its predecessors. Changes made include switching the game view from side to above and adding a great strategy/management angle to it.

A tacti-grid allows you to decide where and how your squad should play. Decide on a formation and your players will stick to it.

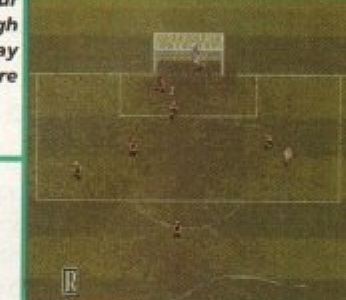
The game is also made highly realistic in that players have their own defined skill levels. Although inspired by Sensible Soccer, MUPLC has more clearly defined sprites and the whole game is well presented.

Details such as the replay function and being able to make informed substitution decisions because the computer will tell you what state your player is in, makes the game stand out from its counterpart.

The game looks set to be a huge hit and the interactive element coupled with the great playability will be a more than worrying challenger for games already on the shelves and those to be released.



The sprite are noticeably smaller than its predecessor



Relive your goals through the replay feature

Man Utd Premier League Champions (Krisalis)

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This looks set to be a huge hit and the interactive element coupled with the great playability will be a more than worrying challenger for games already on the shelves and those to be released.

Stockport County fantasy football

Who better to give their football insights on some of the better footy titles to grace our screens than the lads who play the game for a living?

Stockport County Football Club is a team that can boast several trips to Wembley and the tallest player in the football league – a healthy six foot seven inches.

With this in mind, the *Amiga Computing* team made their way with head held high (about six foot) to the grounds for the ensuing tournament.

Before plunging into this clash of the titans and to give the players a warm up, we presented them with four titles from the current crop of football games to flex the hand muscles with.

Goal!

The latest offering from Dino Dini only managed to stir an "it's all right" from Lee Todd, Stocky's right back. The players warmed to it after a while though, as Darren Ryan, right/left wing, claimed that he preferred Goal to everyone's favourite Sensible Soccer, and Lee came to the conclusion that the graphics were the best of the bunch.

Manchester United Europe

After the hissing and catcalls had subsided and the Amiga had been safely saved from being thrown out of the window, Neil Edwards, goalkeeper, and Darren settled down for a play on this Man Utd-sponsored game from Krisalis.

Even after several minutes of play, the consensus of opinion was that the controls weren't up to much and that the gameplay was so slow that "even Linford Christie couldn't play this one".

The rather tame sound effects were subject to a barrage of laughter as the ball bounced off the goal post with a rather limp ping. All in all, not a game that was met with thumbs up.

Manchester United Pro League Champion

After fetching the Amiga from outside of the club room's broken window and saving the disks from injury time, Lee Todd and Andy Preece, striker, had a quick game on Krisalis' Sensi-like title.

Comments made suggested that everything moves so fast that it's difficult to see what is actually going on, and struggling to control what was going on was even more of a problem.

Sensible Soccer

The majority of players found this classic their favourite as a fun, action packed and easy-to-get-into footy experience and without further ado, the title was selected to be used in the final tournament..

The Tournament

After this brief reviewing session, the Tournament began in earnest. Lee Todd and Darren Ryan stepped forward to take on the *AC* team in a vicious game of Sensible Soccer. Match tension was high – with fingers flexed and focus at maximum, Stockport prepared themselves for the first semi-final.

The *AC* team in the meantime put on a brave face while fumbling for Valium and Beta Blockers in a vain attempt to hold themselves together for the first match...

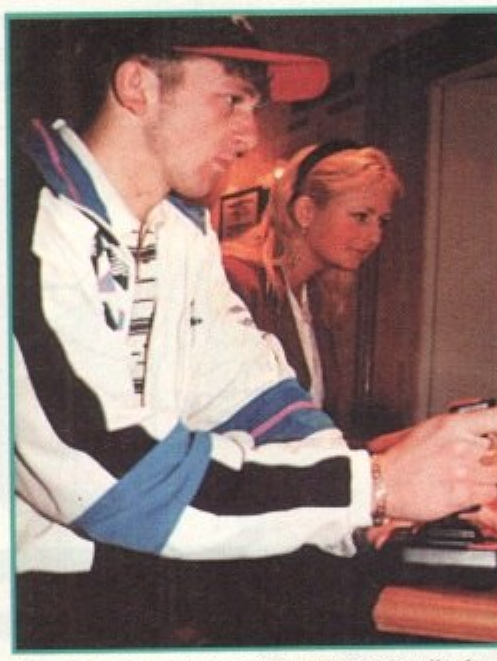
Lee Todd, SCFC vs Tina "The" Hackett, *AC* Team

SEMI

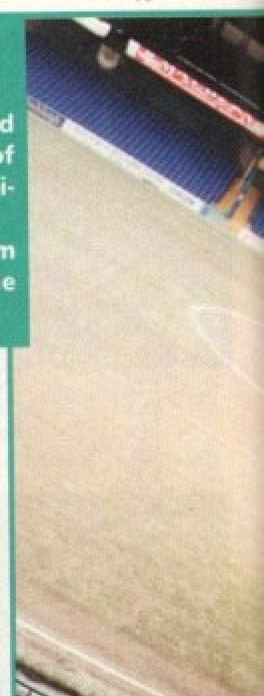
Lee made his intentions clear from the beginning – after a close call at Hackett's goal right from the off, he had the control of the ball for the majority of the game.

In the meantime, Hackett resorted to fouling at every given opportunity. Despite this, Todd had the ball in the back of the net by the end of the first half with a sharp crossover from the left that left Hackett blushing in shame.

The second half held few surprises – although *AC* did manage to take a few pot shots at the goal, Stockport drove the ball in to the net once again, bearing an unarguable result... 2 – 0. Todd was into the final.



Tina, AC writer and Lee, footballer extroadinaire, meet head-to-head in the semi-finals





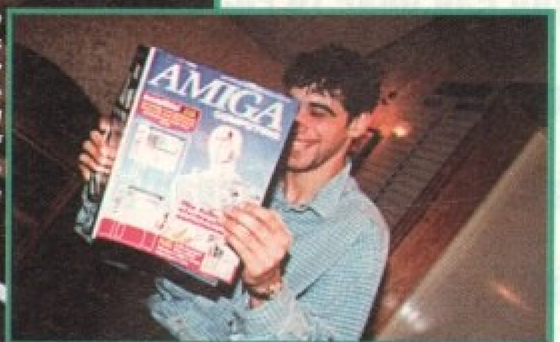
Lee Todd gives his approval of Sensible Soccer

League tables

To make life easier, finer details of the games and the different options available are contained within our league table.

	SENSIBLE SOCCER
Publisher:	Renegade
Developer:	Sensible Software
Match:	cup/league/euro/friendly league/cup
Skill settings:	N/A
Save game:	highlights/data
Players:	1-2 player
Sprites:	small but clear
Sound effects:	crowd chants/boos
Weather:	Seasonal on/off
Pitch:	icy/mud/soft/normdry/hard/random/
Duration:	3/5/7/10/mins
Goalie:	computer
Tactics:	formations/subs
Statistics:	no
Referee:	preset
Pitch view:	overhead
Extra Moves:	lift+bend
Radar:	no
Auto replay:	goals on/off
Other features:	custom teams+data
Score:	92%





Darren Rhine is blown away by the professional quality of Amiga Computing

SEMI

Darren Ryan, SCFC vs Adam Phillips, *AC* Team

A game of unrealised promise. A barrage of attacks at the goal from *AC*'s finest were constantly unsuccessful. Ryan's attempts were ferocious but by half time, there were no goals, just frustration.

Into the second half and the attack continued with the added element of Ryan talking throughout trying to throw his opponent off guard. "What a save!", "ahh, you're wasting time!" and assorted expletives.

This all proved too much for the young man from the Europress offices as the ball squeezed past his goalie in the last second of play. 1 – 0... Stockport were into the final, the *AC* team merely commentating.

FINAL

Lee Todd, SCFC vs Darren Ryan, SCFC

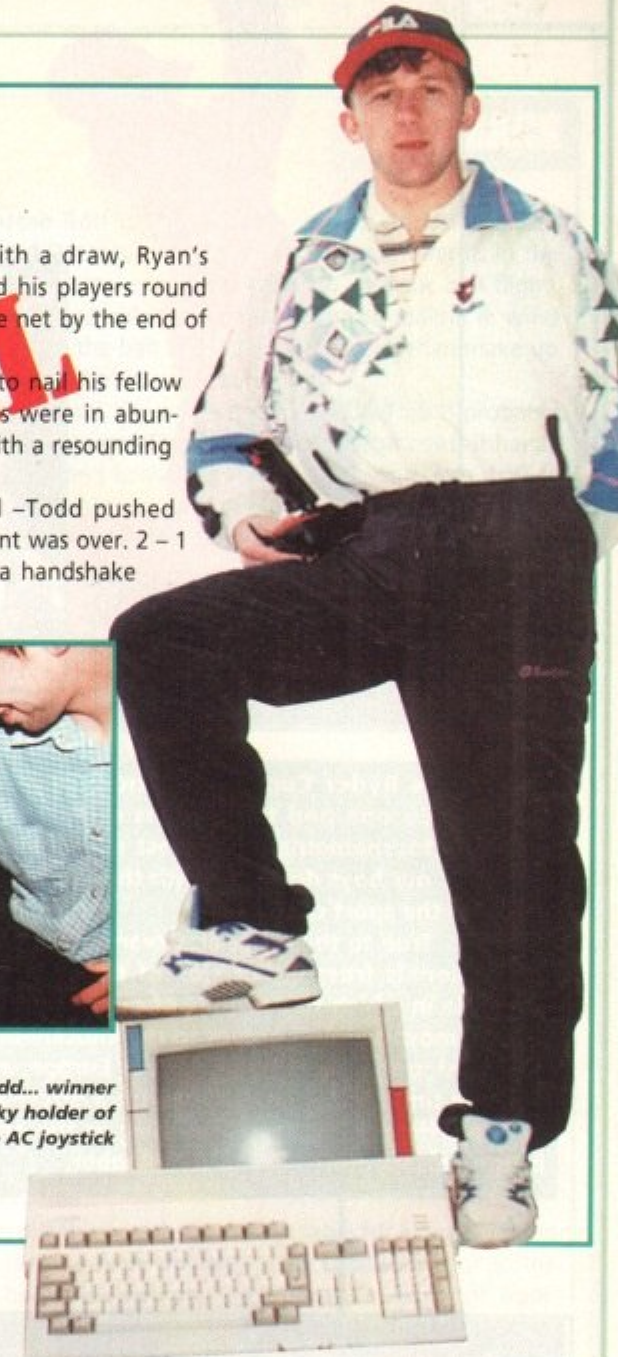
After proclaiming that he'd be happy with a draw, Ryan's dream was shattered by Todd as he carved his players round the field, putting the ball in the back of the net by the end of the first half.

Ryan fought back in desperate attempt to nail his fellow player into the wall. Yellow and red cards were in abundance and Ryan has his moment of glory with a resounding goal scored from a corner.

But all this hard work was to no avail –Todd pushed another one into the net and the tournament was over. 2 – 1 to Lee Todd, the winner... it was time for a handshake and the photocall.

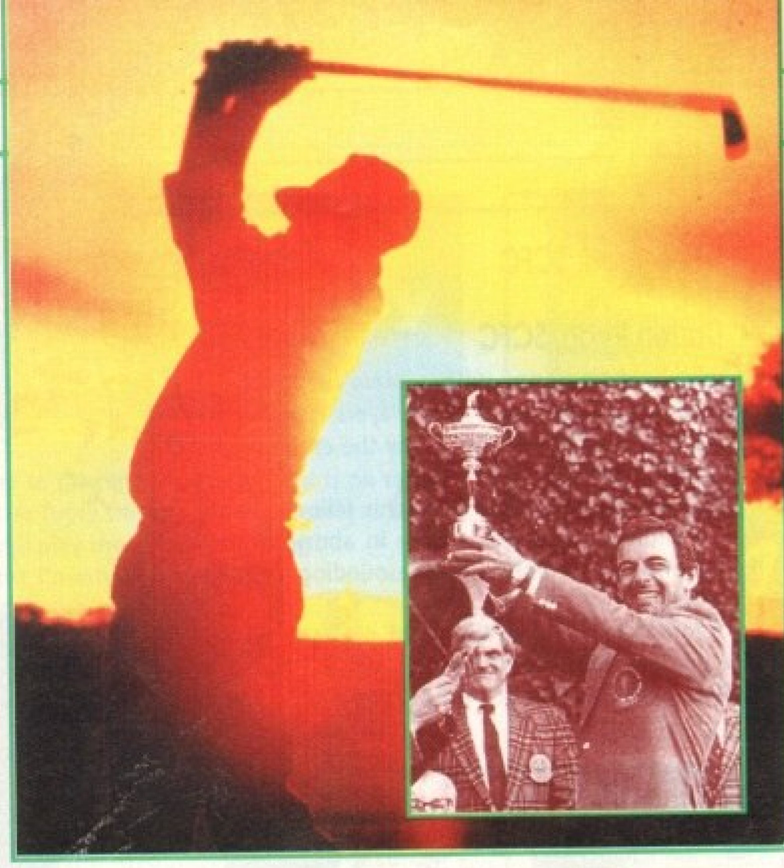


The winner and loser shake hands after a match well played



Lee Todd... winner and lucky holder of the AC joystick

EUROPEAN CHAMPIONS	GOAL	MAN UTD
Ocean	Virgin	Krisalis
Audiogenic	Dini and Dini	In-house
practice/euro	FA+Coca Cola Cup practice/league	all English league/FA Cup/Coca Cola Cup
individual/team/1-10 level	Speed, novice to ace	according to division
replays/data	replays/auto/data	data/
1-2 player	1-2 player	up to 4
large,detailed	animated	small,well defined
music/sfx	crowd react to events	crowd
wind, none to strong	wind,on/off	Seasonal
norm/hard/mud/astro/wet	norm/wet/mudwembley/random	usual+fog/frost
4/8/16/20/40/90	1/3/5/10/20	preset
computer	computer,med/easy/hard	computer
player attributes/editor	formations/transfers	huge strategy element/tacti-grid
running commentary	match report	no
lenient/average/strict	different personalities	preset
side/overhead	overhead-vertical + horizontal with zoom	overhead
autoshoot/ping pass/pointpass	scissor kick/trap ball/aftertouch	no
yes	yes,various size/position	no
on/off video replay	replays, fast forward/rewind	rewind/slow motion/opposite viewpoint
auto corner/throw in	arcade challenge	state of player info
90%	93%	92%



If you can bear to re-live Bernhard Langer's infamous fluffed putt, or think you can do better, Ocean's latest sports game is a good way to raise that blood pressure, as Stevie Kennedy discovered

Ryder Cup

INTRODUCTION

The Ryder Cup competition, played between Europe and the USA, is one of the few golf tournaments to interest many non-golfers, as our boys do battle with the Yanks for one of the most prestigious trophies the sport can offer.

True to the original, Ocean's game puts the player in charge of the 12 best professionals from either side of the Atlantic, playing over a gruelling three-day schedule in which five rounds of golf and the elusive 14.5 points winning total will stretch most people's nerves to the knuckle-biting stage.

Choosing to play either as USA or Europe, and in the shoes of up to four golfers at any one time, the player's skill with a driver and a spot of deft team selection could be the difference between finishing as the grinning Tony Jacklin, or the crushed and bitterly disappointed Bernard Gallagher.

BRONZE AWARD



Team play gives the game a great deal more depth and playability



The initial yardage reading is the only distance gauge available

SOUND

Reasonable but sparse more or less sums it up as far as sound goes. The sampled cheers from the crowd when a hole is won are suitably rewarding, but they begin very clumsily without any fade-in and end almost as abruptly.

The odd tweeting bird, splashes when your ball lands in water, and a great sample of the ball landing in the cup when a putt goes down are the only spot effects except for the awful white noise used to indicate that you've hit a tree.

55%

GRAPHICS

Ocean have made full use of the A1200's 256-colour mode to make Ryder Cup Golf easily the best looking golf game on the Amiga. The game's four courses (which include the Belfry and the Village, Ohio) are beautifully drawn, from the trees to the shaded fairways.

By stacking the various graphics in layers, a certain amount of parallax effect is achieved, and the most distant objects are faded into the sky to give the appearance of depth. Static screens are every bit as good, particularly those which are accessed during play, and the attention to detail is gratifyingly high.

There are a few bad points, though, and a few extra touches here and there wouldn't have been out of place. As in most golf games, for instance, the golfer sprite, his swing action, and the club he is apparently holding remain unchanged whether he's belting out a 300-yard drive or attempting a tricky wedge shot, and the shading could benefit from more attention.

Polygons aren't used on fairways or greens, so the shading is the player's only way of guessing the lie of the land, and as this is often a little too subtle, it can be very difficult to judge which way the ball will bounce or roll. A grid can be superimposed on the greens, but iron shots are unaided by any such technique.

Overall, though, there can be few gripes over graphics, which are definitely the game's greatest strength.

80%

Publisher: Ocean Software
Developers: R.I.S.C.
Disks: 3
Price: £25.99
Genre: Sports
HD Install: A1200 version only
Control system: Mouse
Supports: A1200, A4000; requires KickStart rev 40.3
Recommended: 68020, 2Mb RAM

Golf

ADDITIONAL INFO

The Ryder Cup was first officially played in 1927 at Worcester, Massachusetts, when Ted Ray's British team went down 9.5 to 2.5 points at the hands of the great Walter Hagen. Twelve months earlier, the unofficial precursor to the cup competition had seen the British destroy the Americans at Wentworth.

Abe Mitchell, the captain of that first unofficial team, was shortly to be immortalised as the figure you can see on the top of the trophy, donated by British businessman Samuel Ryder, which the teams have competed for ever since.

Great Britain's first official Ryder Cup win came two years later at the Moortown course, and every two years since then, war permitting, the cup has provided one of golf's most enthralling competitions.

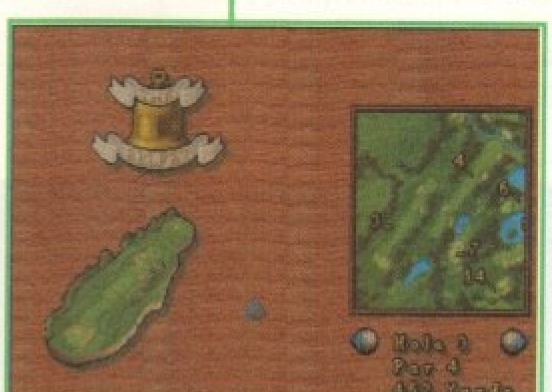
Despite a British win in 1957 and a draw in 1969, the Americans dominated the Ryder Cup until 1979, when the beleaguered British enlisted the help of the continent to form a European team for the first time.

Matches became closer and closer until, in 1985, Tony Jacklin's team finally won the cup back when Sam Torrance sunk his memorable putt and prompted a flood of joyful tears from all present.

The recent resurgence of European golfing strength, thanks to players such as Ian Woosnam, Nick Faldo, Seve Ballesteros and Bernhard Langer, has made the Ryder Cup one of the most popular TV sporting events of all, and millions of viewers tune in every two years to watch what has become a string of incredibly close-fought contests.



Shot mechanics can be as tricky or as simple as the player chooses



Hole previews are handy, but maps should be larger

FLASHBACK

Microprose Golf is the touchstone for simulation excellence, and Ocean's attempt comes nowhere near it. In the Microprose game, contoured fairways, realistic ball flight, challenging gameplay and an attention to realism in wind effects, lie of the ball and other areas more than make up for ordinary graphics and poor sound.

Of the graphically-inclined games, PGA Tour is probably the only real contender, and Ryder Cup Golf beats it hands down. We won't bother to include Links, as it is so slow as to be unplayable, so Ocean have managed to place themselves somewhere in the middle.

SIMULATION

Ryder Cup's most damaging weakness has to be the poor quality of the simulation itself. The flight of the ball is nothing like a real golf ball, and the avid real world golfer will be disappointed.

In addition, the hole previews do not offer a yardage gauge, making it almost impossible to decide whether to lay up before a stream or attempt to clear it with a good drive.

Ocean wouldn't be spoiling the player by offering some sort of yardage indicator, as all pros these days have almost Ordinance Survey-like information supplied by their caddies who walk the course several times before his nibs steps out on the first tee.

Three different methods are available for actually taking a shot, ranging from the easy-peasy combined shot to the trickier hook/slice method. The latter is similar to the traditional power bar as used by most games, while the combined shot method uses a click selector for power and a moving sniper's sight which you click to stop at the desired part of the ball.

This is fairly easy, so the player can elect to introduce wobble to make stopping the sight at the correct spot a lot harder. The third method is the chip/punch screen from which you select how much loft you require then choose from five types of chip and punch. Around the greens and when stuck under a tree, this method comes into its own.

On the whole, Ryder Cup Golf never really feels like golf. The poor ball flight mechanics, a nagging suspicion that those fairways are actually completely flat, and the seeming lack of effect of the wind on the ball rob an otherwise neat play system of realism.

45%

OPINION 65%

Ocean have produced a golf game which refuses to be categorised in the normal way. In terms of its simulation, the game is badly flawed, but the variety of shots on offer gives Ryder Cup Golf a flexibility in gameplay which many will find attractive.

Probably the game's best element is that it is a team event, and it is here that the drama of the Ryder Cup is at least partly reconstructed in pixel form.

Choosing from the last European or USA team (you can play on either side), the player has the job of selecting who plays who and in what order, making the role of captain one of the most important.

There's no point in putting your best players against the other side's weakest in the hope of quick points, because your own weakest players will take a real trouncing when their turn comes up, and as each player performs in a similar fashion to his real world counterpart, the golfing fans among us will have a much easier time of it.

As the three-day event unfolded, I found myself skipping from match to match in an attempt to bolster flagging rounds. Faldo and Woosnam can usually be left to their own devices, but some of the other players, if left under computer control, will be less predictable, and the game aids team play immensely by enabling the player to change the golfers he has under his control at the end of each hole.

This makes it possible to stay on your favourite hole and play each match as it comes through, and I managed to win four in a row doing just that.

On the other hand, the warm glow at winning a hole can quickly dissipate when the score board comes up showing that the other matches are losing ground.

The extra challenge of team play in an intensive three-day tournament lifts what is otherwise a very average game with good graphics, and had the golfing simulation been better, Ryder Cup Golf might have been a very good game indeed.

Maelstrom

Come with me on a journey into space to play the Syd Mead-inspired strategy war/mining simulation that is Maelstrom.

Jonathan Maddock grabs his gun and shovel and heads off to war

Publisher: Empire
Developer: PAS Systems
Disks: 6
Price: £34.99
Genre: Strategy
Hard disk Install: Yes
Control System: Mouse
Supports: A500/A600/A1200/A4000
Recommended: 68000 upwards

INTRODUCTION

Look at the state of this country, and the government is to blame for it all! Now it's not like me to start a political rant at the beginning of a review, but I have my reasons for this outburst. How many times have you thought that you could run the country better than some of today's hapless politicians?

Well, now you can get first-hand experience of running not only a country, but a whole planet, courtesy of Maelstrom, Empire's brand new simulation.

PAS Systems have spent the last two years developing Maelstrom and have tried to achieve maximum realism not only in terms of the mechanics of running a government and fighting a foe, but also in terms of the interaction between people and factors in the game.

As in real life, Maelstrom features a galaxy that is never constant: its characters have moods, its technology is fallible, its leaders are whimsical, and its masses unpredictable.

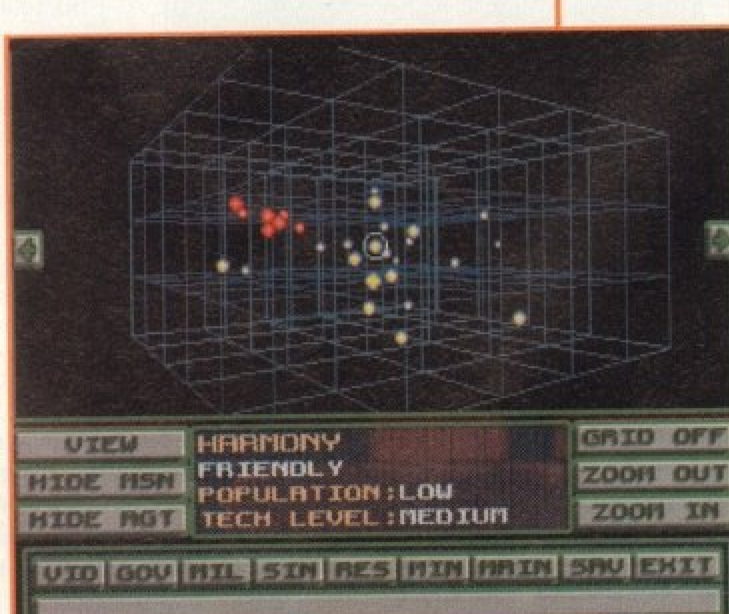
Maelstrom provides you with all the tools for interacting with an entire galaxy while controlling your military, secret intelligence network, research and mining operations.



As Overlord, you need to suggest where on Harmony to survey, and based on survey reports, where to mine



One of those fantastic animation sequences which doesn't actually add anything to the game whatsoever!



The sector map gives you a comprehensive representation of the entire galaxy, all lovingly presented inside a 3D grid



The start of your quest and your helpful and intelligent assistant is there on the Televid to answer any questions you might have

STORYLINE

You were once an officer of rank in the Syndicate forces. You were given a one-man mission to investigate the planet Harmony for a possible take-over. Knowing the explosive composition of Harmony's surface, you were looking for a means of take-over other than a space-ground assault.

During the flight, second thoughts entered your mind. Though you were not of the highest rank, your knowledge of the Syndicate's methods of colonisation turned you against them.

Harmony is a peaceful mining community and it bothered you that you were helping the Syndicate usurp the government, as this would've meant killing innocent miners and their families. When you reached Harmony, you defected and joined the people of the planet.

The people, pleased with this transition, appointed you to the position of Overlord. This puts you in charge of all operations. You must stop the Syndicate before they capture Harmony and change the galaxy into a ruthless dictatorship.

SOUND

If you're looking for an orchestral atmospheric sweeping soundtrack, layered with ear-enlightening sound effects, then don't buy Maelstrom because the sound is virtually non-existent.

I'm not saying that Maelstrom particularly needs amazing sound, but a slight touch of music here and there would've gone a long way to improving the game and giving it that much needed shot of atmosphere.

The only sound effects you'll hear are a few beeps and bangs and even they aren't exactly awe-inspiring. If you want good sounds, then you'll just have to go somewhere else I'm afraid.

30%

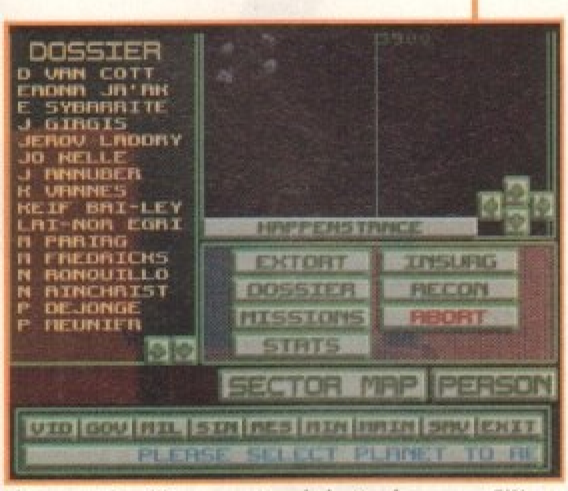
ADDITIONAL INFO

Syd Mead is the man who inspired Maelstrom. Syd is a world-renowned industrial designer and futurist and is perhaps best known for his participation in designing *Blade Runner*. Mead has also been a major contributor to other feature films including *2010, Aliens, Star Trek: The Motion Picture* and the Disney classic *Tron*.

This is not Syd's first game though, because back in October 1993 he had a hand in producing CyberRace on the PC and Macintosh for Cyberdreams, the company behind the highly successful Dark Seed.



From this screen you can develop inventions, ranging from better mining equipment to an improved plumbing system for all of Harmony



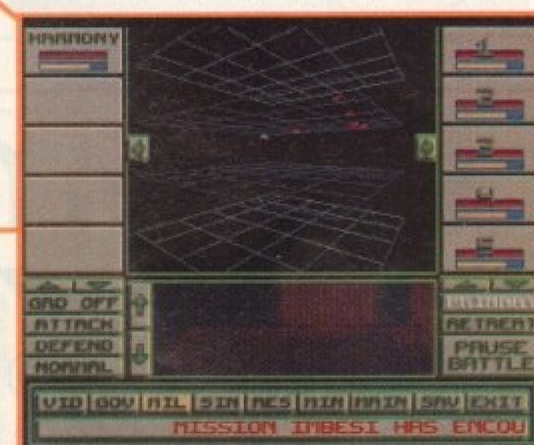
The secret intelligence network, better known as SIN, can be used to unearth hidden facts about important people in the galaxy, and in some cases extort money from them

FLASHBACK

It's quite a hard task to find a game that you can compare Maelstrom to, as it contains a lot of different gaming elements. The closest game that I can think of is Virgin's Dune 2, which received 81 per cent back in September 1993 and was highly acclaimed by critics and punters alike.

The gameplay consisted of constructing new buildings, repairing any existing and damaged buildings, scouting out new areas of land, mining and destroying the opposing forces.

Dune 2 is one of those games that grows on you, if you stick at it. There's plenty of depth and challenge in Virgin's strategy game and it's quite well executed. Dune 2 was a good attempt at a difficult genre to succeed with.



Your armada has bumped into the enemy and battle has commenced. From this point you get to command the action and decide your fate

OPINION 48%

Maelstrom is an incredibly in-depth strategy game and one which seems to have more bad points than good. For instance, because it is so open-ended you don't actually have much idea of what you must do.

When things like battles and the event animations do start to happen it does get slightly more interesting, but these events won't hold your attention for long. The game is supposedly very realistic in terms of interaction between people and factors, but total realism isn't always a good thing in computer games.

If you are a fan of this genre then you will definitely need a hard drive unless you've got the patience of a saint. It all comes on six disks and has loads of annoying swaps which constantly interrupt the game.

For a product that has taken two years to develop, I expected to get a lot more. Maelstrom is just so in-depth that it actually makes playing the game not very exciting, not very entertaining and not much fun.

If you're looking for a decent strategy game then take a look at the excellent K240 or Dune 2, but I would only recommend Maelstrom to the die-hard strategy fan.

GRAPHICS

Maelstrom isn't the sort of game that requires state-of-the-art graphics and most of the time the screen is full of words and figures for you to interpret to decide what you're going to do next.

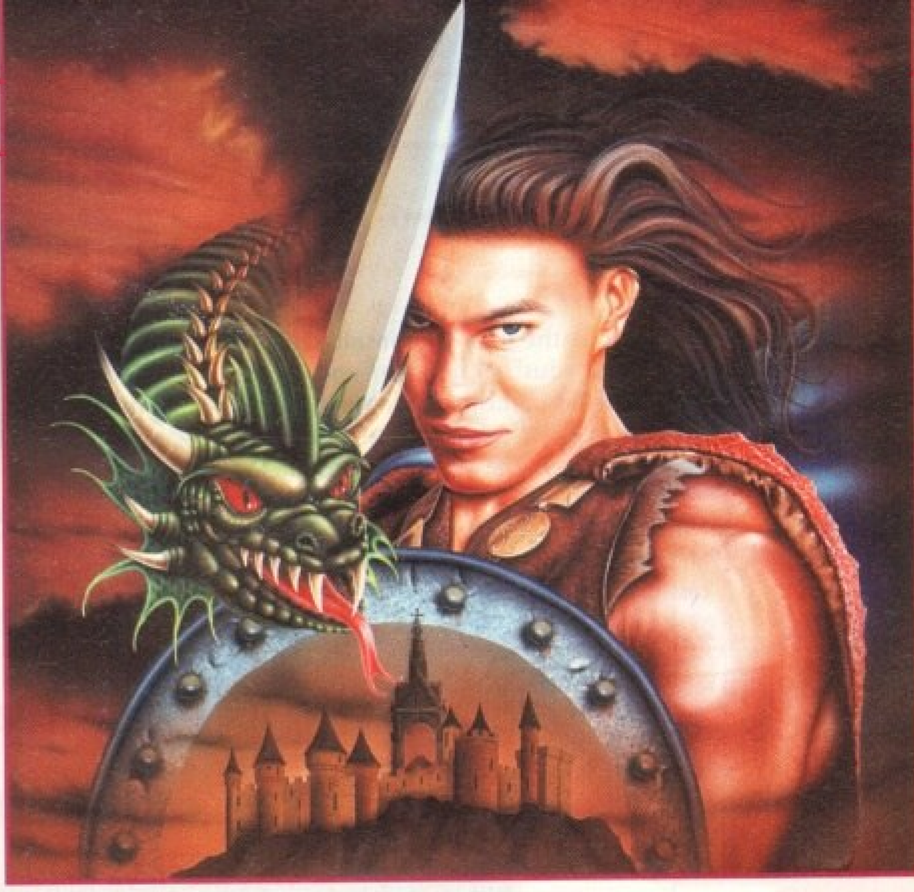
The only section where you get lots of visuals is when you're talking to various people through the Televid screen. This is used for contact with all the important people in the galaxy, including your cabinet on Harmony. In addition to talking to these people, you can also view their personal files for background information.

I suppose the only section of graphics worth mentioning is when you select the sector map or when an event occurs and you get a short animation. The sector map gives you a comprehensive representation of the entire galaxy, all presented inside a 3D grid.

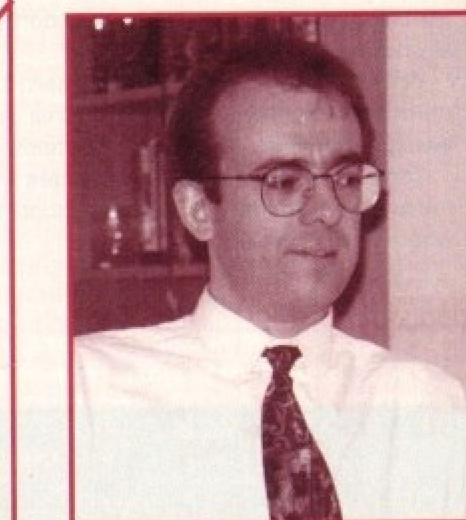
It's handy for finding those planets, but once you've found them there isn't a lot more the map feature can do, so it seems that this is quite a superficial addition that really isn't necessary.

The animations are quite nice, but they're definitely not integral to the gameplay and seem to have been put in Maelstrom so that you forget about all the other "basic" graphics.

45%



Guy Miller
Product manager/game designer



system analysis



Up against morbid mercenaries and sword-wielding adventurers, Jonathan Maddock quivered in a corner as System zoomed down to Derby to check out what's coming soon from Core Design

Better

Deep in deepest Derby a sets of brains are ticking away. They are thinking thoughts about mass destruction and big guns. The brains in question belong to posse of game developers, and they might all have psychopathic tendencies, but as far as game design goes this is not such a bad thing.

Cutesy, fluffy and cuddly game characters are out – this is 1994 and gun-toting, hyper-hi-tech, Exo-skeleton wearing, morbid mercenaries are in. The game developers I'm talking about all work for Core Design and their latest project is Skeleton Krew – a blastfest from hell.

Core's blast-'em-up is a story about some awful cryogenic mutations known as Psykogenix who have overrun an entire city while under the command of an evil ex-mortician and erstwhile cryogenics experimenter called Moribund Kadaver.

News that Moribund has created a terrible Psyko Machine reaches the headquarters of the Military Assertainment Department. In desperation, the MAD call upon the services of a team of morbid mercenaries called the Skeleton Krew.

You can choose from three characters, Spine, Joint and Rib, with the fourth member of the Krew, Skulker the operations vehicle, appearing in a computer-controlled advisory capacity during between-level scene-setting sequences.

The action takes place in an eight-way scrolling isometric environment, with the main on-screen characters split into upper and lower sprites, thus allowing them eight-way directional movement and an eight-way field of fire.

System talked to three of the development "krew" to get the low-down on what looks like becoming one of the greatest 3D isometric games ever to appear the Amiga.



Skeleton Krew is still a few month's away from completion, but as you can see it's looking sexy indeed

What did you do before you started work at Core Design?

I joined Rare Ltd (a company better known as Ultimate Play The Game, creators of Knightlore and Underwurlde) in Twycross in the 80s, first as a graphic artist and then as their creative designer – putting together storyboards for a variety of games on the Nintendo Entertainment System. The most successful of these (in the US, at least) was Battletoads.

How did you come up with the idea for Skeleton Krew?

Chris Long, the Mega Drive programmer, had the idea of doing a two-player, 3D isometric shoot-'em-up. I then got together with James Ryman and we came up with the idea of the 'Krew, a bunch of psychotic anti-heroes with sexy exo-skeletons and big guns, battling against evil ex-mortician and cryogenic experimenter Moribund Kadaver – and his army of deadly Psykogenix – across six levels of morbid mayhem!

Three-dimensional isometric shoot-'em-ups are few and far between in the Amiga games world. Why did you choose to use 3D over the standard 2D view?

Mainly because of the fact that 3D isometric shoot-'em-ups are a rare beast on any games platform. We just thought it would be great to have a 3D environment to blast about in.

I personally get more out of playing a game where you've got 3D depth and more freedom of movement rather than moving in a single, sideways direction through a flat 2D environment.

What makes Skeleton Krew different from every other blast-'em-up? Are there any unique features?

Well, it's got a 3D isometric viewpoint for starters! Mix that with the best graphics and animation you're likely to see this year, the best characters, the biggest and best explosions, more gore than a gorefest, a stompin' soundtrack, more action than a Steven Seagal movie, lastability, playability and blastability – we think we've got a shoot-'em-up that'll put all others to shame.

Skeleton Krew is a major league blast-'em-up, but just how much violence is in the game?

Violence? Loadsaviolence. So much, in fact, that you'll have to keep telling yourself "it's only a game", but that's what it is – a game. This is cartoon violence we're talking about here. It isn't real. Nobody really gets hurt. Only pixels and they don't feel a thing.

by design

Jason Gosling

Programmer

What did you do before you started work at Core Design?

Life before Core was spent producing rave flyers for a venue in Mansfield – a far cry from programming. For eight years before I came to Core, programming was a major hobby, though.

Skeleton Krew will only appear on the A1200 and CD32. Why isn't there going to be a A500/600 version?

When we first started this project, the A500/600 was thought to be too limited for what we wanted to produce in speed, colours and so on. However, we haven't completely written-off an A500/600 scaled-down version of the game.

What "amazing" features can the A1200/CD32 owner expect to see?

Well, it'll be fast and the sprites will be much larger than most people are used to. Joint, for example, is 58 pixels wide and 48 pixels high – and that's big! There'll also be 2,000 colours on-screen at any one time and a full-screen isometric viewpoint.



What do you think of the new CD-based technology?

I think it's a very good for what it is – a huge storage medium and high-quality music system. Its full potential as a games medium is really up to individual game designers.

This is apparently your first major games programming job. How are you finding things in the big scary world of game making?

Very down-to-earth. It's really not what most people imagine – nobody gets rich overnight, for example, and most people don't drive expensive sports cars. But money isn't everything and the work is very satisfying – when things go rights!

The sprites in Skeleton Krew are a bit on the large size. What are the advantages and disadvantages of using such big sprites?

The main advantage is that bigger sprites make it easier for the player to see what's happening and it's more fun to take control of a big character than a tiny little thing. The disadvantage is that there's a difficulty in keeping the speed up.

Apparently the game's characters can rotate their bodies a full 360 degrees, allowing them to fire in one direction while walking in another. How difficult was it to implement this control method?

This was one of the most difficult phases of the project. There are over 120 frames to Joint alone, all sequenced according to several factors, including direction and whether he is shooting or jumping. The control will have to be customisable, ie a one button controller and keyboard or a multi-button controller.

James Ryman

Production Designer

Q What did you do before you started work at Core Design?

A Like Guy, I'm a Rare escapee. Jeremy Smith (Core Design's MD) made us an offer we couldn't refuse. I'm glad I accepted. Core's a great, truly creative company to work for. Unlike some others I could name.

Q How did you come up with the idea for Skeleton Krew?

A Guy and myself got together and used our warped minds to invent a warped world filled with warped characters to give warped thrills to warped people like us.

Q Explain the processes involved in designing a game, from simple sketches to finished product

A The first thing to do is get the initial idea. In this case, Chris Long decided it would be great to do a two-player, 3D isometric shoot-'em-up. Then Guy and I fleshed out the concept and storyline, while Jason Gosling and Chris worked on the initial code.

Meanwhile, I'm sketching like crazy, wasting loads of trees on game ideas and character designs, while Guy works up the storyboard/game design/map designs for presentation to the powers that be. This gets the go-ahead and it's game on...

Q As a rule most shoot-'em-ups slowly become tedious. How will you solve this problem with Skeleton Krew?

A By the inclusion of secret rooms, power-ups, traps and the like, and a very basic strategy/puzzle element throughout the game – basic as in shooting one thing to make another thing appear and then shooting at that.

Q You're responsible for drawing graphics for the Mega Drive version. How are you finding it working in a 3D isometric view?

A My true role is as production designer, which means that I am responsible for the graphical look and feel, character designs and atmosphere in all versions (A1200, CD32 and Mega Drive) of the game.

Three-dimensional work has its own problems, but then so do other types of game. Hey, I'm a professional, I can overcome any problem!



The start of the adventure and Ebryn finds himself lost and confused on the dark and desperate streets



The hero of Core's forthcoming 3D isometric RPG unsheaths his sword and makes light work of one of the many enemies that he will face on his quest

DARKMERE

There hasn't been a really good 3D isometric adventure on the Amiga since the Bitmap Brothers released Cadaver, so I think it's about time for another. In Core Design's forthcoming role player, you play the role of Ebryn, the son of an Elven king known as Gildorn.

For many years the villagers of Darkmere were terrorised by the mighty dragon, Enywas. The Elven Council refused to help the villagers with their fire-breathing predicament, but Gildorn couldn't condone this form of non-action, and with sword and a scrying crystal in hand he set off to slay the dragon.

The battle was long and hard, but Gildorn succeeded. Years later when he was old and weak, his son Ebryn had become a brave fighter. But due to neglect and disinterest, the land was once more becoming a magnet for evil.

Then one day, the skies grew dark and the wrath of the demons was cast down upon the village. Ebryn was given his father's sword, the one with which he had slain the mighty dragon.

As heir to the throne, it was Ebryn's quest to uncover the mysterious curse of Darkmere and avenge the people of the village – but this time for ever.

Darkmere promises to be a true role-playing game with an interactive style of play. Graphics-wise it's by far the best looking adventure that I've ever clapped eyes on.

There will be animated backgrounds on each of the 600 screens, plus exceptional graphics and animations including on-screen combat.

Darkmere features three massive levels, each with over 150 isometric 3D locations. Atmosphere is provided by over 100k of sampled sound in each level.

If what System has seen so far is anything to go by, Darkmere could well be challenging for our adventure game of the year..



Not all creatures are your enemies. Chop up these rabbits and you can eat them to replenish your energy stores



Wandering around Level 2, and Ebryn comes up against a skeleton with an attitude problem


And so it was that during the age of Ragnarok, Heimdall, beloved of the Gods, came to Earth from Valhalla to find the pieces of a Sacred Amulet - the power of which would banish the evil Loki from the viking lands.
It came to pass that Heimdall's quest was revealed in the mighty saga that is....
Heimdall 2
THE 8TH DAY
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A1200 ENHANCED VERSION
AMIGA CD32
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Keep an eye on news reports and what your opponents are up to

- Publisher: Action Sixteen
- Developer: MicroProse
- Disks: 2
- Price: £12.99
- Genre: Simulation
- Hard disk install: Yes
- Control system: mouse/keyboard
- Supports: A500, A1200, A4000
- Recommended: 68000

system essentials



Each month System will bring you the latest budget games for both the Amiga and the CD32. This issue, Tina Hackett explores Railroad Tycoon and flies into the future to the gravity space world of Fly Harder

Railroad Tycoon

Building railways is a highly unusual concept for a computer game and not surprisingly it may raise an eyebrow or two. However, MicroProse have taken a potentially dull subject and released an original and fun simulation in Railroad Tycoon.

Brought to you by the author behind many a good strategy game such as the well renowned Civilization, Sid Meier aims to capture in Railroad the essence of building an empire.

As an entrepreneur in the 1800s, you need to develop your empire by building railways. Although this sounds relatively easy, you're not the only one who sees opportunities for wealth in the railway industry. You will need to develop a competent strategy to see off your rivals.

To start the game you choose which one of the four countries you wish play in, each one having its own significant place in railway history, and its own economy.

For example, play in England around 1828 and you will need to consider that cotton used in the mills around Manchester needs to be transported from the harbours of Liverpool.

You have to keep a close eye on your funds; careful handling of limited finances is essential, so you'll find yourself having to decide between buying more trains or adding more facilities or stock purchases, for instance.

Decisions as to where to lay track, what types of train to use and when to schedule them lie in your hands. Your ultimate aim is to build the most profitable railway so you can retire to a prestigious position.

This is a very original game and darn good fun to boot! Definitely worth a look at this budget price.

58%



Here's one of the reactors in which you'll need to guide the energy spheres

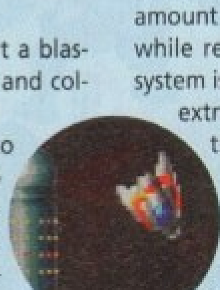
- Publisher: Krisalis
- Developer: In-house
- Disks: 1
- Price: £14.99
- Genre: Gravity
- Hard disk install: N/A
- Control system: Control pad
- Supports: CD32
- Recommended: N/A

Fly Harder

Our second low-priced offering is an Amiga port-over for the CD32 via Krisalis' budget label, Buzz.

As a mixture between a blast-'em-up and a gravity-'em-up (let's call it a blastivity-'em-up for the sake of argument), the aim of Fly Harder is to find and collect energy spheres and drop them onto reactors.

The gravity element provides the difficulty here, and you're going to have to be pretty quick with the controls to manipulate your spaceship close to the spheres and then guide the spheres to the reactor. Having dropped all of the spheres onto the reactor, you progress to the next level. The story behind Fly Harder is that you are on an interstellar spaceship heading towards the planet Zarkow when you are informed that the Targoid insect people have installed powerful reactors in the planet's cavern system – reactors which will drain the planet's energy supplies and raw materials.



This is where your help is needed. As one of the ship's finest pilots you are sent to try and save the planet. And as if life wasn't difficult enough, the Targoids have invented a complex security system which you will need to get past before you can destroy the reactors.

The Targoids will try and block your attempts with laser barriers, for instance, which you must try and switch off to pass unhindered. The difficulty level of the game can be set. Degrees of Targoid aggression can be altered, as can the amount of gravity that affects you, so the game is accessible to the novice player while retaining a fair amount of longevity, even for the expert. The password system is helpful, as even though the game becomes highly addictive, it would be extremely annoying starting from the beginning every time – especially as the life meter isn't exactly over-generous.

Visually, Fly Harder is impressive. Backdrops are clear and detailed and give a feeling of depth and realism. The game clearly benefits from the CD's quick loading abilities and enhanced sound, too, with smooth scrolling making for great playability, and the sound effects adding much atmosphere.

Fly Harder is a good example of the direction in which the CD game should be going in terms of gameplay and scrolling, but does not really show off the machine to its full potential, probably because it is merely a port-over.

But it is a highly playable and addictive game. Although a relatively unusual title, it can be likened somewhat to Thrust. It's rather difficult to get the hang of at first, but will keep you glued to your screen for a good while.

63%

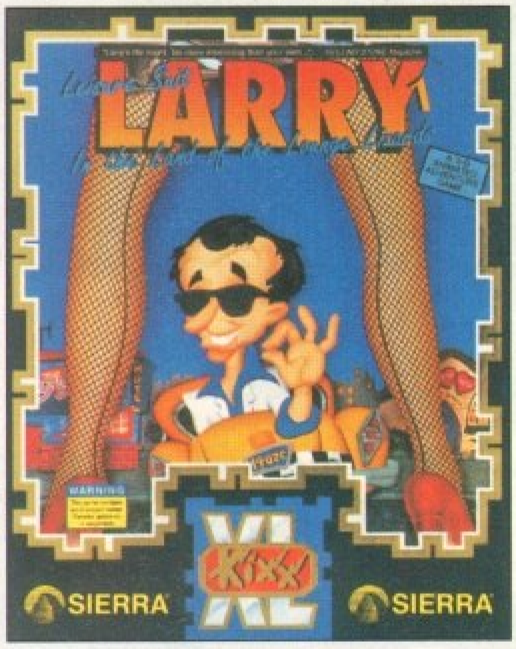
Make *the* ConneXion



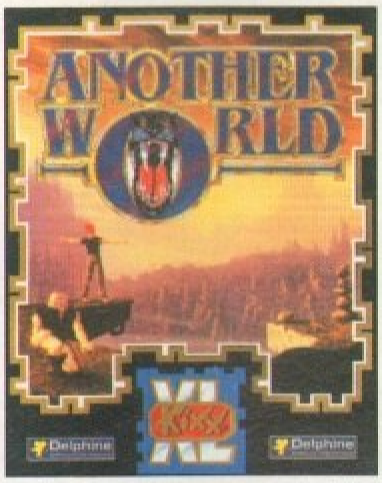
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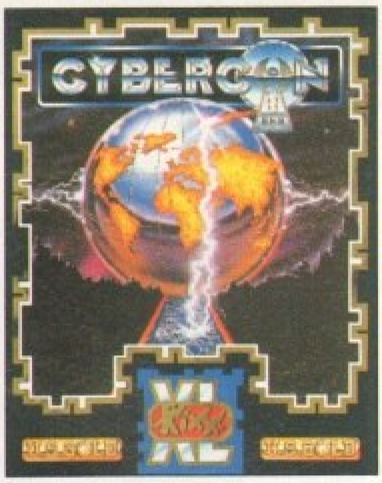
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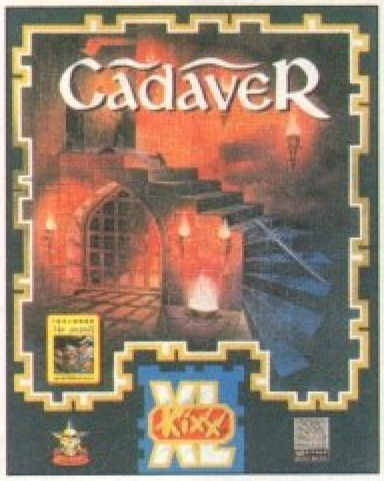
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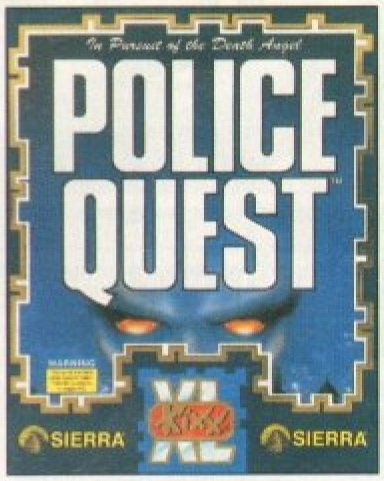
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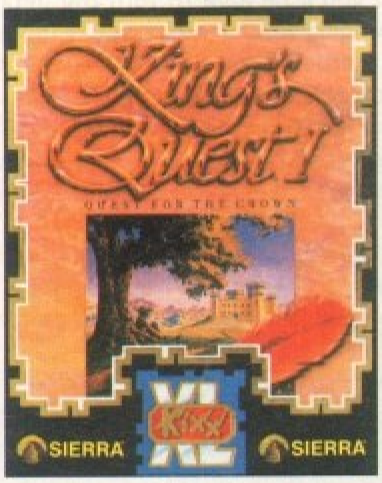
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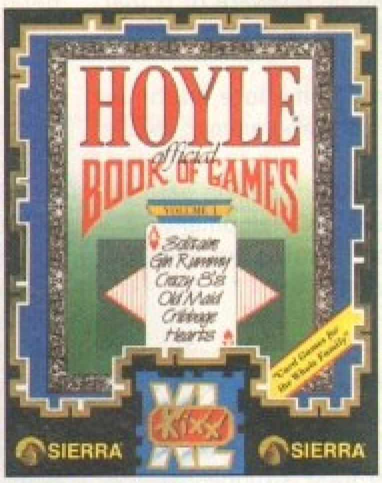
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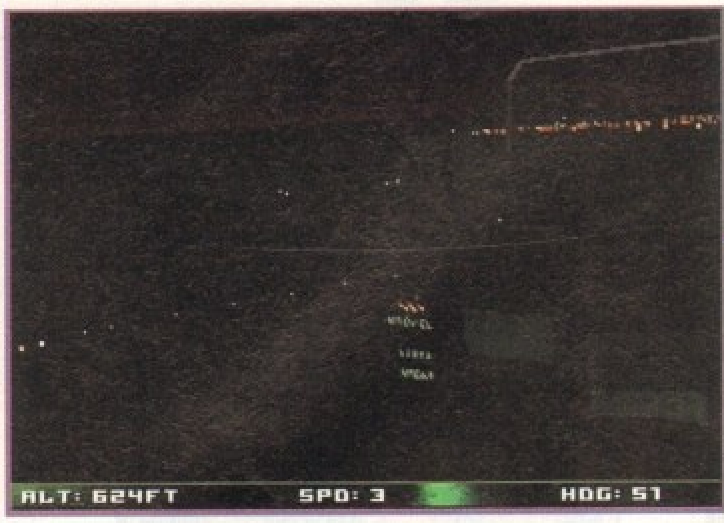


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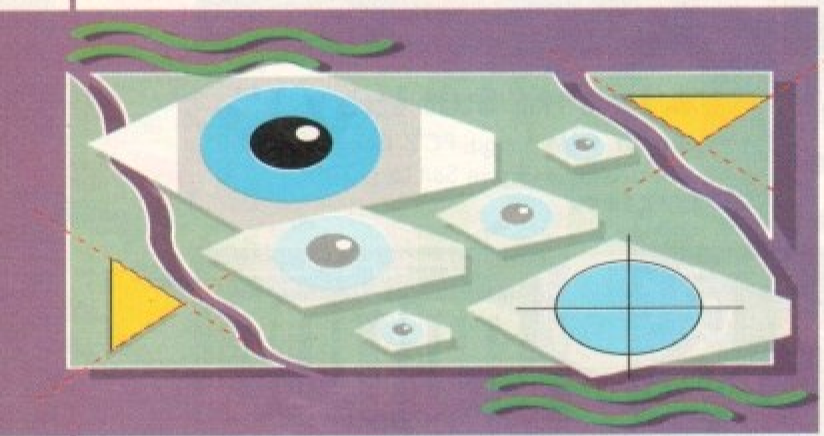
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Even the night missions will have that edge in the realism stakes


Turning on to his six, the TFX fighter follows enemy vapour trail

system preview




Landing at night will require your ILS system

TFX

After an impressive take-off on the PC, Digital Image Design are busy putting the finishing touches to the Commodore versions of TFX. Simon Clays takes a peek behind the hangar door with DID's chief Amiga coder, Charlie Wallace

Digital Image Design have teamed up with Ocean Software on numerous occasions, Epic, F-29 Retaliator and RoboCop 3 being the most infamous. Unfortunately, RoboCop 3 aside, these previous efforts have achieved notoriety for the wrong reasons. While most would have to admit that they were all tremendously ambitious projects, they were let down by rushed schedules and poor bug testing.

But, these initial hiccups did not dampen the enthusiasm of DID, who rather than consolidating their losses, have set about proving themselves to any doubting Thomases.

Ever since its inception some 18 months ago, TFX (Tactical Fighter Experiment) has attracted a great deal of attention. Its formal unveiling came at last September's European Computer Trade Show, where it completely stole the limelight and left the crowd gobsmacked.

It was released to rave reviews on the PC and has to date sold 70,000 copies. Meanwhile, back in Runcorn, the Amiga version is busily being polished pending its imminent release. Although TFX was released on the PC first, what most people will be unaware of is that the majority of the development was done on the Amiga.

However, creating TFX on Commodore machines didn't come problem free, as lead programmer Charlie Wallis explained:

"Using the A4000 was great, but the main problem we found was the lack of quality development software. The only way around this situation was to devise our own compilers, and code around them."

LAVISH

This wasn't the only problem Charlie faced though. TFX is an absolutely huge title, and the PC version is bathed lavishly in ground and structure detail.

The A1200, with its 2Mb of RAM, struggles to handle this quantity of detail, and is left feeling rather insignificant in comparison to the processing power of a modern PC.

However, Charlie is quite confident that the A1200 version will have everything that its PC counterpart boasts: "It'll have the same amount of colour, same detail, but you'll be able to turn the detail up and down, depending which machine you're using.

"It'll be a little slower on the A1200, but the A4000 should be capable of moving polygons very quickly."

While the A1200 version should appear on about ten disks and sounds a likely candidate for the hard drive, Charlie has tried to prioritise the disks for ease of access.

"TFX is huge, in fact the PC version boasts 13Mb of information, so to make disk accessing easier on the Amiga, we separated all the campaign disks and prioritised them all to the relevant regions."

One machine that won't have to worry too much about disks is Commodore's console the CD32. Charlie confirmed that a compact disc version is well under way:

"The CD32 version will have absolutely everything, in fact it'll probably boast more features than the PC version. The CD32 has the planar chip, so we can apply texture to polygons and hopefully move them faster."

The action in TFX centres around a UN aerial peace

keeping force. As a United Nations pilot, your career will throw you into five of the most volatile flashpoints in the modern world. These hotbeds stretch from Columbia and its infamous drug barons, through to Somalia, where famine is rife because of General Mohammed Aideed and the other warlords. You can also attempt to keep the peace in war zones like Libya and Yugoslavia, where the Serbs, Croats and Muslims continue to wage war.

TFX will be no different to many of the modern combat simulators in the respect that it'll feature a campaign option. This will consist of the same mission structure as many modern simulator players are familiar with, Air Superiority, Interception, Anti-Armour, Close Air Support, Interdiction, Defence Suppression and Maritime.

MISSIONS

However, if none of these are to your liking, then the game will also feature a mission creator, so you can define your own.

To assist you in the mission create option, DID have implemented satellite imagery. This has meant that the team have had to accurately map the majority of the earth's surfaces, including most of her key rivers, valleys and mountain ranges.

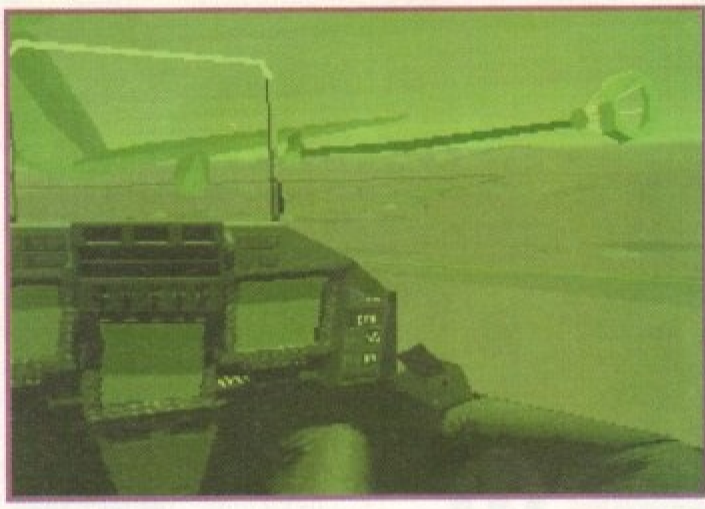
DID claim that they've developed an incredibly simple but extremely realistic system. Feedback from PC users seems to suggest that the Runcorn developers are to be believed.

TFX will also boast a whole range of external camera views and zoom facilities, and even on-board missile cameras. However, one of the most innovative features DID have thrown in is the virtual flight option. Viewing a bitmapped cockpit and pilot perspective, the plane will behave exactly as in true flight.

This means that as the plane rolls the player will see it sweep, but the pilot will remain stationary momentarily before falling in line with the rest of the cockpit. This is an aspect seldom included in flight simulators, but one which pushes TFX a little closer to the real thing.

TFX should also boast some very realistic graphics, with yet more attention being paid to detail. For instance, when you strafe ground targets don't be surprised if tracer isn't whizzing over your shoulder, and if screenshots are anything to go by, be prepared to wince as bitmapped AAA explodes around your cockpit.

With the level of technical and graphical detail anticipated, if the Amiga versions come close to what PC owners have been revelling in then DID will surely have put Commodore machines safely back into the simulated skyline.



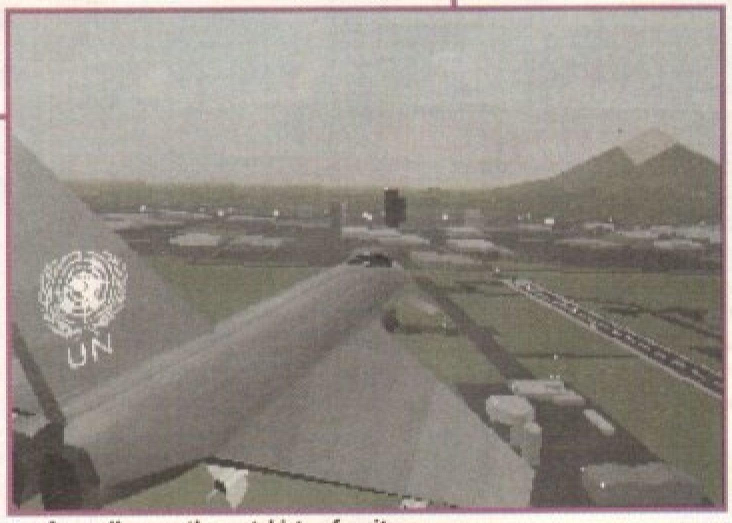
Re-fuel at night using night-sight equipment



The futuristic Eurofighter on a routine mission



TFX's style will make it one of the most advanced flight sims available...



...a few miles on, the outskirts of a city



Supporting a Hercules, the Eurofighter watches as it drops its payload

Simulator specialists

TFX will feature three of the most advanced aircraft in the world, each of which will fly you into battle scenarios around the globe.

Of the planes in service in TFX, only the Lockheed F-117A Stealth Fighter has yet seen the light of day. The Eurofighter 2000 is still under test and the Lockheed F-22 will probably get no further than the prototype stage.

Although TFX will cater for the arcade end of the simulator market, the team have gone to great lengths to create accuracy, as Shaun Hollywood explains:

"Initially we went through *Jane's* [techie defence industry publication – Ed] to find out the specifications of the planes. This wasn't that easy because some of the jets we're using haven't been declassified yet."

After this stage, DID enlisted a real pilot to help with the flight models, and to ensure that the flight envelope was accurate. Combat routines were coded from real footage so the team could be sure that the enemy planes would react correctly to your missiles.

In an effort to recreate technical realities, the firm looked further afield and recruited an extra dimension of knowledge. Charlie Wallace enlightened further:

"We had a professor from Glasgow University aerospace department, and an aeronautical engineer from Princetown..."



The Benefactor is as agile as Corned from Flashback – here he swings like a monkey to avoid one of the more ferocious creatures scattered throughout the game

Benefactor

system preview



Lemmings meets Flashback in this arcade puzzler from the shores of Sweden. Adam Phillips takes a closer look

Flashback and Lemmings are two classic examples of their genre – both boast polished graphics and, more importantly, excellent and addictive gameplay.

Enter Psygnosis and the programming skills of Sweden's Digital Illusions with a hybrid of the two games that looks set to be just as playable and thought-provoking.

The Benefactor of the title is actually a young hero type called Ben Bright. Very much like the one-man equivalent of the A Team, he regularly refuses payment for any help he may give because he gets so much job satisfaction from using his courage, skill and brains to outwit the enemy.

There are also never any weapons or killing involved – he knows he's better than anyone and wins every time. So, when he receives a distress call that reads "Merry Men imprisoned... Rainbow Machine captured... Planet doomed... need help", the Benefactor wastes no time and heads off to their rescue.

The first thing that strikes the player on booting up the three-level demo is the size of the game graphics; presented as a platformer with classy graphics, the size of the main character is small, very small.

Everything in fact is miniaturised to show you a large section of the level you're playing on and, like Lemmings, this adds to the gameplay rather than detracting from it. Cute could be a word to describe it especially with the Merry Men – furry Lemming-like creatures.

The actual gameplay is a mix of platforming skills and problem-solving logic. In true Flashback style, Bright leaps, climbs ledges, rolls along the ground and generally looks athletic and heroic.

After stepping out of the teleporter, the player guides this thumb-sized gymnast round the landscapes with the sole intention of unlocking the Merry Men from their cells. Then with them in tow, the Benefactor must return to the teleporter so that they can be whisked away to safety.

This basic design is enhanced and added to with the various challenging and varying puzzles met along the way. How can I leap that gap to flick a switch that will then create a platform for my rescued Merry Man to leap across onto and reach the teleporter? This question and many others need answering to ensure success within the game.

Fortunately, to save one's sanity, these imprisoned folk are not completely useless like the Lemmings – if they come to the edge of something dangerous, they'll stop or try and leap across.

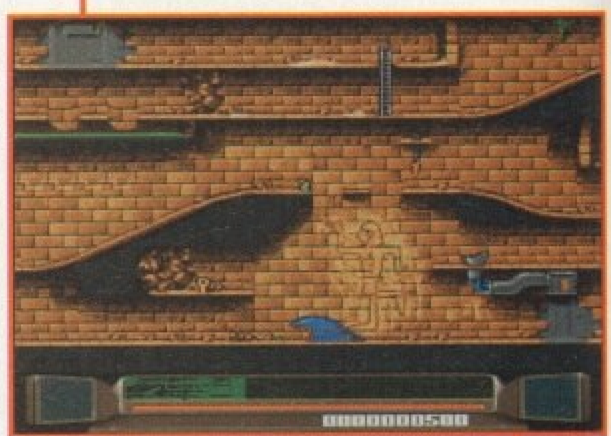
They can also help by being picked up and hurried along or, in the more amusing cases, given a swift kick up the backside and sent up into the air to reach a previously unobtainable platform.

From the demo, this co-operation is one the game's strongest points as a feeling of teamwork and co-ordination comes strongly into play.

There are some 60 levels to run, leap and plot your way through. These include six different types of terrain including Caves and Egypt to Future and Blizzard. Add to this several notorious pets of the invaders, Minniatians, who have been placed throughout the game to guard the Merry Men. Judging solely from the first three missions, the Benefactor is one tough challenge and highly addictive to boot – this is looking like the next arcade puzzler to make teenagers and middle aged folk alike forget their respective generation gaps and try and help those Merry Men to get their planet back.



Let the little furry critter out of his cell and then throw him up to the platform to release the "jump further" trainers for your feet



Egyptian curses and mummies litter the later levels

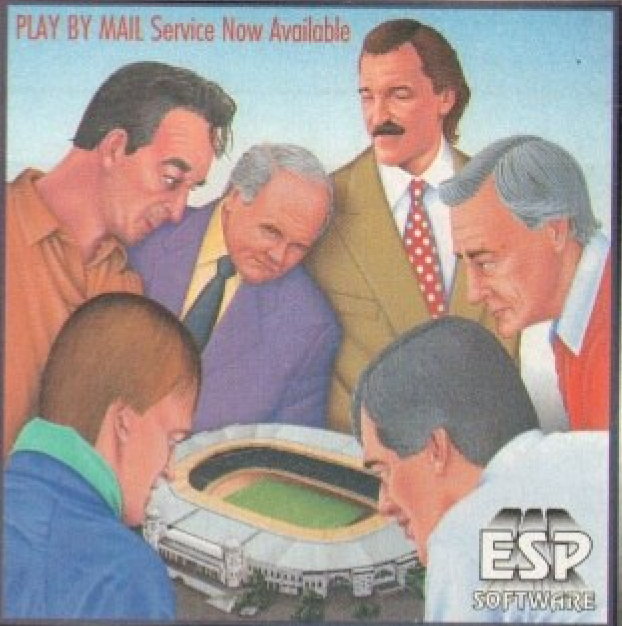


Slide down wires to reach previously unobtainable platforms

PROFESSIONAL FOOTBALL MASTERS 4 VERSION

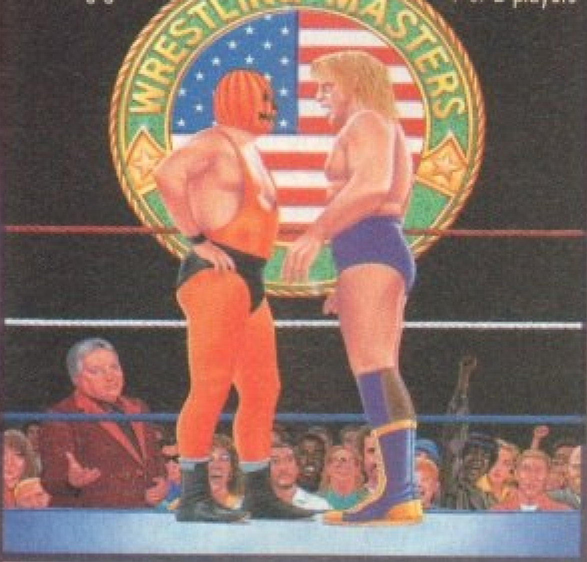
Quite simply the best Football management game for your computer.
We have served thousands of satisfied customers during our 4 years of trading. Over 10,000 man hours (during 5 years) has been dedicated to the production of this constantly improving game. It is one of the most realistic and accurate representations of a professional football managers annual challenge to tactically out wit and conquer every opponent.
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Club : Sponsorship, Ground improvements, View opponent, Finances
The Match : Real time scoreboard reporting goals & injuries yellow/red cards, Sound effects, Interventions permitted at any time to change tactics, formations and make subs. Physical graphical penalty participation (optional). Over 80 different referees.
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Plus : Over 100 other meticulous refinements impossible to list here.
Editor : Allows you to amend various items in saved games. £12 Extra
Scottish : Dedicated version details available upon request.

PLAY BY MAIL Service Now Available



EASY TO PLAY Animated Wrestling game

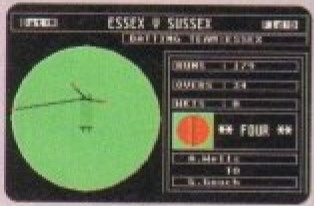
Joystick or Mouse. 1 or 2 players



CRICKET MASTERS

This is a purely managerial cricket manager game that concentrates on strategy and includes plenty of relevant statistics. The game has been designed and developed by a true fan of the sport. It replicates everything that a real manager has to contend with and it's a totally unique production that anyone with an interest in Cricket should experience.
A summary of the main features is shown below:-

- AXA EQUITY & LAW 18 league county teams, 50 overs per game.
- 4 Cup competitions including Benson & Hedges, Nat West.
- 20 different match umpires with accurate names and strictness.
- Accurate player details Surname, height and age.
- 27 different player attributes. Most skills have a direct impact on the effectiveness of each individuals actions during a simulated match.
- Easy player selection. All game text is clearly presented.
- Batting and bowling averages. Top batting and bowling tables.
- 3 Different training intensities to boost batting, bowling or fielding.
- Weather, pitch and light often make an impact on ground condition.
- Full match highlights let you watch the action ball by ball with full graphics and/or realistic sampled sound effects for significant events (Fours, Umpire decisions, etc.). Interventions are permitted at any time to change batting tactics or fielding placings.

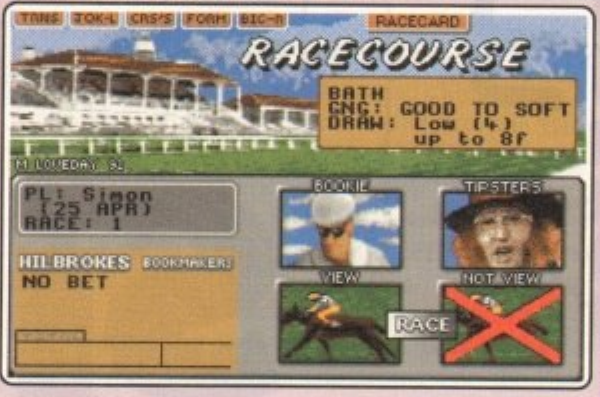


- 3 Batting/Bowling classifications (Normal, Attack and Defend).
- Choice of 15 different field placings.
- Full scorecard results with best batting and bowling figures.
- Other staff (Physio, Groundkeeper, Scout) can be hired and fired .
- Annual league fixtures listing. Current week and last league results.
- View current cup competition draws and historic records.
- Real time transfer market. Player contract and wage negotiations.
- Sponsors, Printer access, Finances, Poor ground fines, Manager rating.
- 15 Options to alter game preferences, Load/Save game.
- Instruction book with plenty of examples.
- Plus many more fine details that we are unable to list here.

STABLE MASTERS V2

This game has been designed to be as close to real racing as possible. Five years of development by a clever racing expert has led to the second revision of this Flat Horse Racing Simulation.
Up to 4 players can participate as Owner Trainers with the primary objective of becoming the top rated trainer, in respect of prize money won, at the end of each racing season (March to November). There are up to 35 other intelligently controlled computer trainers to compete against and compare your personal performance.
To achieve this aim you must discover a potential champion and train them so that they become capable of competing well and winning any of the 47 big prize money races (Handicap and Group). eg. The Derby
To give you an idea of the tools provided in this game to assist you reaching your objective we have listed the main features below:-

- 250 horses each with over 60 independent variables.
- 26 different race courses (2 all weather), real life characteristics mirroring the diversity of racecourses in the UK (descriptions provided).



- 20 Jockeys who vary in ability and booking fees, Orders & Feedback.
- Formbook and Win Summary Cards cover the previous 200 races.
- Animated race display or just the result. View Declaration List for races.
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Research & Development : Three years full time race analysis and experimentation to refine and test the prediction system.
Inside Knowledge : Plenty of unique hints from contacts in the know.
User Friendly : No racing knowledge required, easy to use, tutorial book.
Restricted Sales : As soon as our programs predictions have a prolific impact on the betting odds we will stop accepting new buyers.
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- Load/Save game. Skill levels.
- Computer/Human players.

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- Bouncers, wides and no balls.

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- Manhattan Chart.

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- Left and right handed players.
- Range of batting types.
- Editor to amend game stats.
- Bowler types include seam, swing, change and both types of spin with 8 speed levels.

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- Large 3D scrolling screen covering the entire playing area.
- Mouse controls bowler's line, length, direction field settings.
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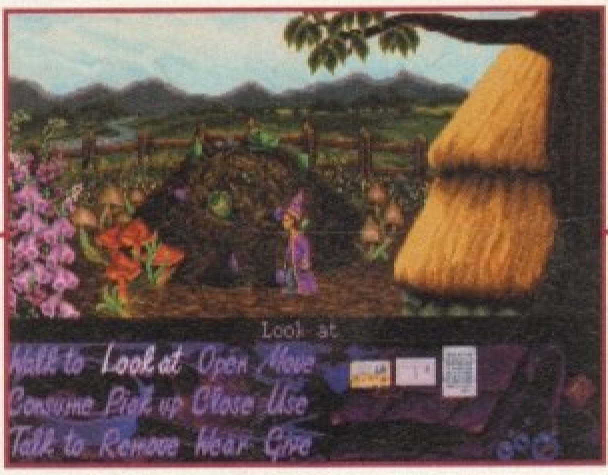
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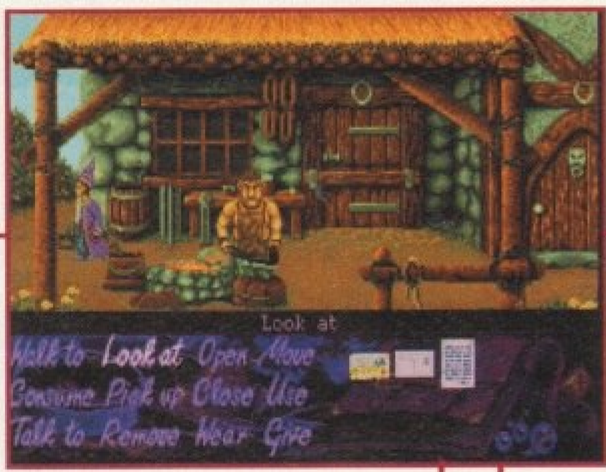
NAME TELEPHONE

ADDRESS

POSTCODE



Behind the cottage you will find the compost heap

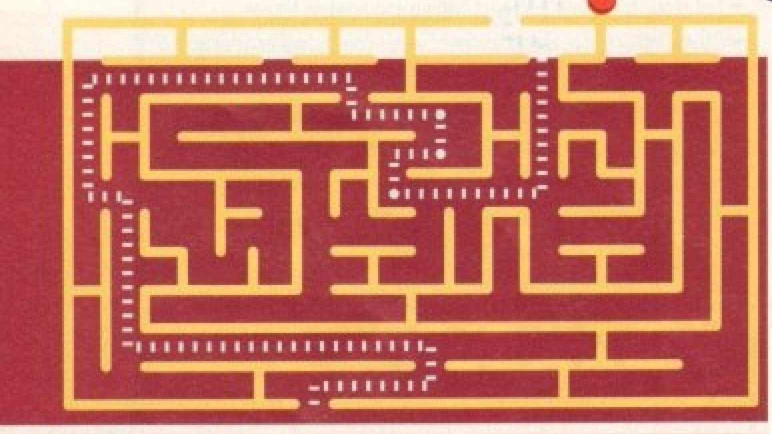


At the Blacksmiths you will need to collect the rope near the barrel



Ask the Troll if you can cross the bridge

beat the system



Simon the

Adventure Soft's recently released Simon the Sorcerer is already a very popular title. So for those adventurers who want guiding in the right direction, read on with part one of our comprehensive guide

Once inside the cottage read Calypso's note. Examine everything and on opening the drawer you will find a pair of scissors, take them. Look on the fridge and take the magnet.

Going outside, make towards the compost heap behind the cottage. Go back towards the front of the cottage and head right. You'll find yourself at the Blacksmiths. Near the barrel you will see a rope; take it.

Pick up the clapper off the table. Now head right, where you will see a dodgy geezer, but don't talk to him yet. Go left towards a cottage and pick up the ladder. Go into the cottage. At the top of the stairs you can collect a specimen jar.

On your way out of the cottage, pick up the cold remedy found near the door. Once outside head left towards the cottage with the bees outside. Remember to examine everything. Now go back towards the dodgy geezer. Walk right to the shop and have a look inside.

Now go left to the Drunken Druid and go inside. It is important to look at everything and speak to everyone. On looking at the fruit machine you will discover some matches which you'll need to take.

Speak to the wizards which can be found by walking right. To find out your quest tell them: "You'll do anything to be a wizard." Walk left and talk to the barman and watch his actions when you ask for a drink. Now go outside and head left to go out of the village.

Walking right you will find three paths; take the bottom right path to the fallen tree stump. Try to go down, the tree stump will talk to you, try to go down again and you will find yourself talking to Woodworm.

Walk down and walk left to the witch's cottage. Look at the well and move the handle. Pick up the bucket of water. Go inside the cottage and take the broom.

If the witch should throw you out, go back inside and she'll challenge you to a fight. Walk right to go back towards the tree stump. Continue right until you reach the Troll. Ask him if you can cross the bridge. Talk to the goat and then go back left until you are at the three paths again. Now take the middle path to the right. You will find a Barbarian. Talk to him and ask "What's the problem?" and then help him. He will give you a whistle. Walking right you will come to four paths. Take the first right to find Bard playing music.

When you have talked Simon will head back to the four paths. Use the top right path to find a hole. Look at the sign and talk to the hole. Doctor Von Jones will answer. Walk right to the centre of the forest and head up your nearest stairs. You will find some doors. On the floor is some paper; pick it up and look at it.

Go back to the centre of the forest and try to go into the Dwarf mine. To do so you will need a beard. Look at the rock and pick it up. Using the map, go back to the village. Go into the shop and give the shopkeeper the shopping list.

Now go right to the pub and ask the barman for a drink and while he is busy use the scissors on the dwarf. Use the map to go back to the centre of the forest.

Wear the beard outside the dwarf mine and use the password "beer" to go in. Talk to everyone and go

System Snippet

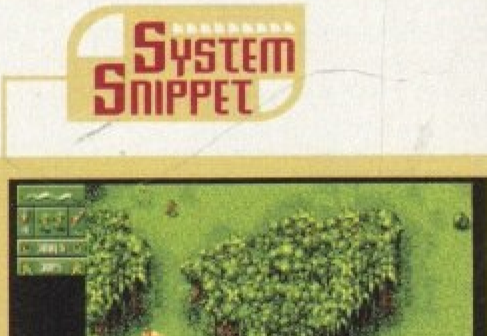
Zool 2

Go to the options screen and type BUMBLEBEE. Start the game as normal. Now you can skip levels at will simply by pressing Return.

System Snippet

Cannon Fodder

Fancy a little cheat to blast your way to success in Cannon Fodder? Go to the save screen and type in JOOLS as your saving filename. "Cheat mode activated" should appear. You will then find that your lead trooper has become a four-star general.





Ask the Barbarian: "What is the problem?"



These paths will take you to the Bard and the hole

down into the cellar to find the drunken dwarfs. Examine everything.

Go back outside and remember to remove your beard. Walk right until you find the Woodcutter. Talk to him and take the metal detector he offers you.

Walk right to the Gorge, now go right, then left, left back to the centre of the forest. Go up the steps to the right and go into the cave entrance. Walk right until you see a door; open it.

Go inside and talk to the character, consume the first bowl of stew. Ask him for another bowlful. Use the specimen jar with the stew. Ask for another bowlful and consume the stew. When he has gone, look at everything. Move the chest, open the trapdoor and go down the ladder. Walk right and go back up the ladder. Leave the house.

Walk right and use your metal detector. Carry on right until you come across the giant, talk to him. Now use the map to get to the Troll bridge, tell the Troll that you'll get him some Goat.

Pick up the placard and walk right to the three paths. Take the bottom right path and continue right until you meet a crossroads. Go right and use the bottom path. You will come across a bell, use the clapper with this bell and move the bell. Now use the hair to climb up the tower where you will meet Repulser. Tell her you have come to rescue her and kiss her. Pick up Repulser and again use the hair to climb down.

Walk left to the crossroads and take the top path. You will see some vines; climb down them. You will meet the Golum who you can give the stew to.

After using the map to take you back to the village, go through the Arch. On the left you will see the dodgy geezer who will talk to you. You should look at what he has, but tell him you're not interested.

Go through the arch and left, back to the cottage with the bees outside. Use Repulser on the chocolate truffle door. Go inside and look at everything. Pick up the hat and the smokebox.

Outside again, make towards the beehive where should use the smokebox and then take the wax. Now go into the pub and ask the barman for a drink. While he is busy, put the wax into the beer barrel situated behind him.

Goal

System Snippet

If you should have a player sent off, simply bring on a substitute by pressing the substitution key. When on the team selection screen, click on the name of the player who has just been sent off. Then click on the substitute you want to bring on and return to the game. Therefore nobody is actually taken off.

System Snippet

Alien Breed 2



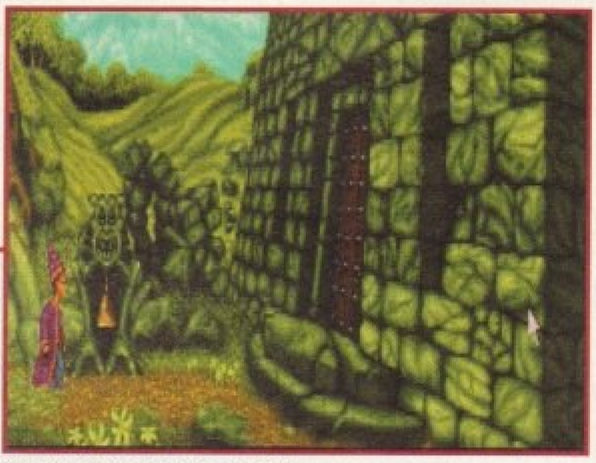
Alien Breed 2 is causing much frustration, so here are some level codes:

Level 1 Landing Pad 1: 098654
Level 1 Landing Pad 2: 736353
Level 1 Landing Pad 3: 243433
Level 1 Landing Pad 4: 378829
Level 1 Landing Pad 5: 000000
Level 2 Civilian Zone 2: 353828
Level 3 Civilian Zone 2: 108383
Level 4 Civilian Zone 3: 370101
Level 5 Civilian Zone 4: 982822
Level 6 Security Passage: 847464
Level 7 Science Zone 1: 737373
Level 8 Science Zone 2: 928112
Level 9 Science Zone 3: 287364
Level 10 Science Zone 4: 193831
Level 11 Security Passage: 090921
Level 12 Military Zone 1: 309383
Level 13 Military Zone 2: 101211
Level 14 Military Zone 3: 103992
Level 15 Military Zone 4: 998112
Level 16 Planet Surface: 125332
Level 17 Underground Shaft: 091233

Sorcerer



Look at the sign and talk to the hole


Use the clapper with the bell





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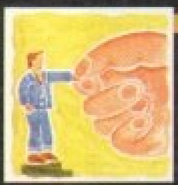
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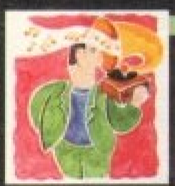
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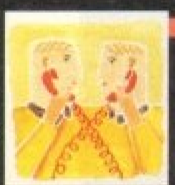
AMIGA *insight*

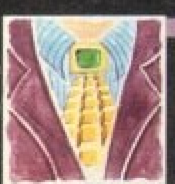
Expert views on the latest applications













In the last issue we began our look at the main elements of ARexx inter-process communication. Continuing this overview, we will use a simple demonstration program to show how messages are received at ports, how they are decoded, and how results are returned to the caller when the messages are "replied" to.

The demo program is not in C, Assembler, or Basic, but in ARexx itself, so that it can be understood by all readers; the principles involved can then be adapted to the programming language of your own choice.

The slight bias towards C is due to Amiga OS realities – the basic principles apply equally to any language that allows the use of Amiga shared libraries.

Almost all ARexx activity in the Amiga system shares a common feature – the sending of an ARexx message (called a RexxMsg structure) to an Amiga port, and the processing of that message.

This applies not only when you are actually sending commands to ARexx-compatible applications, but also when you launch an ARexx program, or perform any other ARexx system activity, eg open the trace console or launch a function host.

To build a program with an ARexx interface at the most basic level, all we have to do is to provide it with a port and a set of meaningful commands that it can process and act on.

The structure of the messages, as well as the ports, is always the same, regardless of the actual operations they perform. In this respect, the ARexx interface is rather consistent and easy to program. The differences lie in the contents of the messages.

The structure of the RexxMsg was introduced in the last issue. Since we can only the give the broadest descriptions here, you should also obtain some other form of documentation describing the system structures; if you have nothing else, the Commodore "include" files contain all this information.

Of the 128 bytes of the RexxMsg , the structure in the first 20 bytes (rm_node) identifies it as a valid Amiga Exec message. The next two fields are four-byte Amiga pointers (APTR). Neither of them concern us yet.

The next four fields, rm_Action, rm_Result1, rm_Result2 and rm_Args, are probably the most important from the communications point of view.

The first three are of type LONG which simply means four bytes each. The rm_Args field has slots for 16 pointers to strings of characters in memory that must end with a 00 byte. This is a C convention. Each of these pointers is also four bytes long. In certain cases (when a message needs to return a result in a string) rm_Result2 may contain a pointer to a string (STRPTR) instead of a long value.

The rm_Action field is the most important when we want to identify an incoming message. This will inform us what exactly the message is supposed to do. In our simple example today, we take it for granted that any messages sent to our demo host will be commands, so we do not check for this.

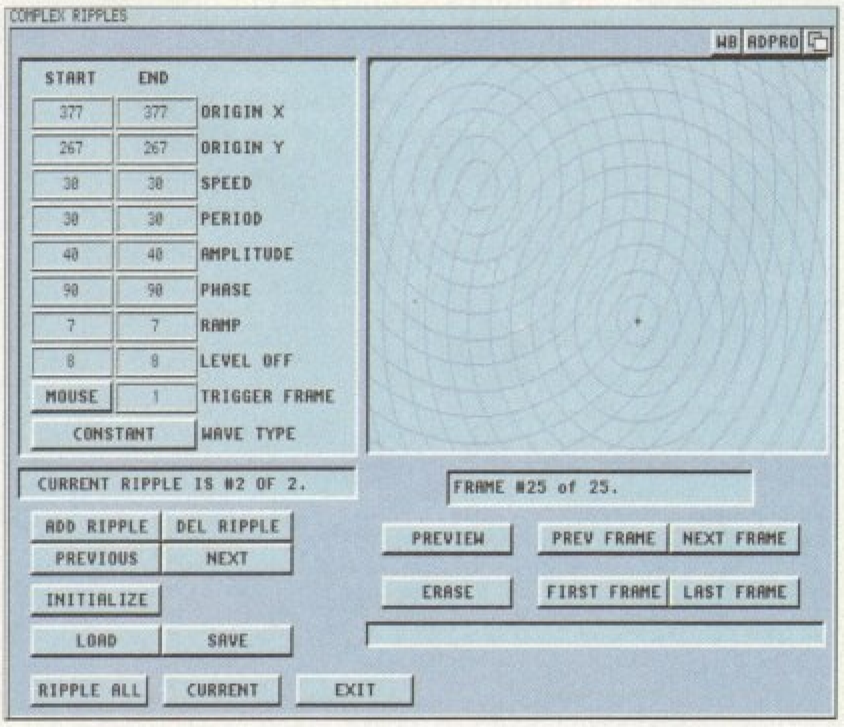
In later versions we will use this field to check whether incoming messages are commands or functions, and also to send special requests to ARexx itself.

However, in addition to telling us about the message, the rm_Action field also gives us some additional information through so-called modifier bits.

In our example we check whether bit 17 of this field is set, which would indicate that a result is needed. ARexx sets this bit automatically on all outgoing commands if the OPTIONS RESULTS instruction is used in the program. The result is then be placed in the special ARexx variable RESULT.

So far this is all quite straightforward, but now we come to the one area that might cause some confusion initially. You probably already know that ARexx strings have some limits – for instance, they may not be more than 64k long.

These limits are imposed because of certain properties that the strings need to have in order to be managed efficiently by ARexx. All ARexx strings, including those that are used as arguments or results in ARexx messages have a special structure,



Caption and grab required

Simpler macros

Our program combines a number of techniques with which we are already familiar, along with some new ones that show how the messages are passed around. I must stress once again that it is simply a demo of a command host.

It is unlikely that you would ever write an ARexx program to return values as a command host, simply because you can get exactly the same effect with a much simpler macro.

You would write it as a command host in another language, though, so ARexx is a convenient language-independent presentation medium. Another reason is that the functions of the rexxsupport.library (part of the ARexx distribution) handle a lot of the drudge work involved in opening ports ans so on.

For a beginner, this code would obscure the main point of what we are trying to do. Once you have understood the central issues you can take care of the details involved yourself, or, even better, use one of the several PD utilities that simplify ARexx interface creation (much like we are doing with rexxsupport.library here).

Therefore be sure that you have it installed with the rxlib rexxsupport.library 0 -30 0 command, preferably in your user-startup.

called the RexxArg. This is the second structure you need to be aware of when building ARexx interfaces.

The RexxArg is composed of four fields totalling eight bytes containing information about its size and other ARexx-specific stuff, followed by a variable length buffer where the actual string is stored.

Yet when you look at the argument slots in the RexxMsg structure, all you see are pointers to bog-standard null-terminated C strings. So where is the rest of the RexxArg structure? Well, by definition a pointer to RexxArg points to the beginning of the string buffer, and all the rest of the information is at a negative offset from this pointer!

This means that apart from its ARexx bits, a RexxArg string appears to the system just like a regular string, and yet it has these hidden "extra bits" that allow it be managed by ARexx.

You can well imagine that this setup invites several memory-management pitfalls, which could easily corrupt the Amiga's memory and make it crash if they are not handled with care.

However, things are not that bad. ARexx itself, in the form of the rexxsyslib.library, provides two functions which create and delete RexxArg strings easily and safely. Use them to create the strings when you need them, delete them when you are finished, and let the ARexx system worry about the details.

In most other respects, the pointer that is returned from the use the functions CreateArgstring() and DeleteArgstring() from the ARexx interpreter (rexxsyslib.library).

We are also going to use some functions from the Exec.library to replace some of their counterparts in rexxsupport.library that do not allow us as much flexibility as we need.

However, both of the above mentioned libraries are standard Amiga libraries, that is, they do not have the special ARexx hook necessary in order to be used from within ARexx.

In order to be able to use them we will need yet another special ARexx library, called rxgen.library, and whose job it is to allow ARexx to use non-ARexx Amiga libraries!

This library is available on Fred Fish disk 459, and you will not be able to run our program without it.



Interfaced!

Alex Gian concludes his two-part insight into constructing your own ARexx interfaces

functions will behave exactly like a string. The inverse, of course, is not true, and if you try to delete a non-RexxArg string with a library function you will probably cause an immediate crash.

Our program is a simple command host. It opens a port called MYPORT and recognises three commands. The command HELLO returns a result that contains a greeting and the current time, the command SUMSQ takes two numerical arguments and returns the sum of their squares, and the command BYE shuts everything down. Any other commands are simply ignored.

To use the program, you launch it from one Shell window, and you invoke it from another ARexx program launched from a second Shell, eg:

```
rx "OPTIONS RESULTS; ADDRESS 'MYPORT' 'HELLO'; SAY RESULT"
```

In order to create the RexxArgs for our results, we are going to

Flawed example

I must apologise for a small error that got past me in the example program on the CoverDisk. In line 70, in the section marked "/*In place of error code*/", we create a RexxArgstring that is not passed on to the calling program!

As the program stands, this RexxArg will not be deleted if a result has been requested – this could lead to problems, or at least to memory not being freed.

We must either not create the string at all, or else return it as the result in place of the current dummy '00000011'x error code. Sorry about that.

Of course a result (RexxArg) that gets returned becomes the property of the calling program and is automatically deleted by it.

Make sure it is installed in the same manner as rexxsupport.library. Basically rxgen uses information about the offsets and register use of the non-ARexx library functions to link them in to ARexx.

The main reason that we replace the functions of the

```
waitpkt(portname) -> packet=getpkt(portname) -> .... -> reply(packet,0)
```

loop with their Exec equivalents, is that the reply() function clears the secondary result field (rm_Result2). As such, it is useless for returning a result which we may want to set ourselves. Because these functions work together, maintaining an internal system record, they have to be used together.

Therefore if we replace reply() we must also replace getpkt(). Furthermore, the Exec functions take the port address rather than name as argument, so we need the FindPort() function too.

It is however acceptable and convenient to use the rexxsupport OpenPort() and ClosePort() functions, as well as the GetArg() function which returns the string in the first of the 16 argument fields – this is the actual command received.

One of the good things about the rexxsupport.library is that it checks to make sure that everything it uses is opened and shut properly. So if an ARexx program receives an external HALT command, it will ensure that all ports shut down properly.

When using the Exec.library all these niceties are your own responsibility, and a real program would require error handling code. Again this highlights the advantage of using support libraries, especially if you like doing things the easy way.

Rexxsupport also provides the very useful Next() and Offset() functions. The former is a bit like peek(), and the later adds offsets to addresses, but all returned values are four-byte strings, and so can serve as APTRs!

● *More of our interface overview next time.*

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EXPORT ORDERS WELCOME

From home video to television

A tape is a tape – or is it? Adam Phillips takes a closer look at the different formats available and why we need them

If you've ever tuned into a program about video-making late at night or flicked through the various high street catalogues on camcorders, you'll have noticed the rather large and bewildering amount of tape types on offer – Video 8, VHS, SVHS, Betacam SP... the list stretches to the horizon.

Each format has its different picture qualities and more importantly, price tags. While VHS is an ideal medium to start on because of its cheapness, if you continue making videos, you'll begin to despise the loss in generation quality when you edit with it.

What follows is a rundown of some of the tape formats on offer starting at bargain basement prices and working upwards to the rather expensive, full-blown professional television quality.

VHS and Betamax

When the video standard war started back in the turn of the 80s, VHS and Betamax entered the ring to meet in a battle of marketing over quality.

While Betamax gave a clearer picture, the makers of VHS managed to market their product better, convincing the consumer that their brand was the one to have and the rest, as they say, is ancient history.

A television is made up of a series of lines – 625 to be exact. This in turn is constructed from 312 colour and 312 black lines which are interleaved in each frame, giving you your image.

VHS offers the user between 240 and 260 of theses lines, which as you can tell is not the best-looking ratio in the world.

Despite this, the format is still as popular as ever and used in many home camcorders for taping the odd wedding, christening and funeral – the VHS tape is still one of the cheapest formats on the market with extensive playing times of up to five hours.

Now, with the extended speed found on many VCRs, this time can be doubled to tape an entire Saturday of trashy sports and quiz programmes for your viewing pleasure.

Quality has certainly improved over the last decade but Betamax is still in existence with its own picture and sound quality surpassing VHS but boasting the same time amounts.

SVHS, Video 8 and Hi-8

SVHS was the next step for camcorder users offering a far superior picture and sound quality. In fact, it's reckoned that there is about a 55 to 65 per cent quality increase with the average line reading being 400 – a substantial leap over its forefather.

Video 8 (the eight referring to the size of the tape) was introduced by Sony to be a VHS beater and around the time of its introduction, it certainly came out on top. Since the early 80s though, VHS tape technology has moved on and Video 8 quality is now matched by the latest generation of VHS tapes.

Hi-8 was the next logical step and, like SVHS, can offer a line rate of 400 but unfortunately, this all requires the equipment to run it on which in turn costs you, the consumer, more money.

High and Low Band Umatic

For several years, Umatic was the broadcast standard for television until the relatively recent arrival of Betacam. Its technology is based round those similar to VHS – composite video. Translated in to layman's terms, this means there are three colours (red, green and blue) combined into one signal with the luminance. Luminance is the brightness of the black and white in each frame when mixed to create the final image on the videotape. While Low Band Umatic is cast away from our television screens due to its now unsuitable quality, Hi Band can be shown on TV only if it is a first generation copy (recorded once).



Betacam SP

With its introduction, the top-of-the-range Betacam equipment offered a full 625 lines on-screen giving the best picture so far. By using component video, two channels are available on the tape instead of one as found on VHS.

This allows the image to be broken up into three separate chunks of information and in turn means that the machinery itself has less to deal with at any one time and therefore is more reliable and produces better results.

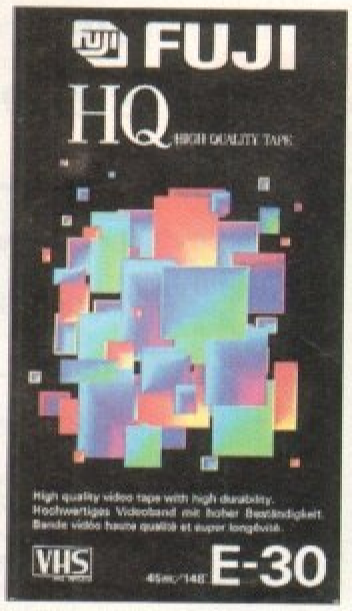
Betacam is TV quality up to the three to four generations, making it the current leader in the professional pack. Well, it was until the arrival of...

D1, D2, M2 & Digital Betacam

Imagine a tape that, like CD, is digitally recorded. Instead of recording an image through analogue recording heads, it is taped in pure binary – 1s and 0s.

This all means that there is hardly any degrading when copying or cutting. The only time when the men in suits at the BBC start to raise a questioning eyebrow is after the 75th generation... that's quite a substantial improvement on all the other tape formats.

● *Thanks to Sony UK, Hamlet's Audio Visual (Macclesfield), ARTTS International, and Bubwith*



From the humble origins of VHS...



... to the latest in tape technology – digital video.

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Using Midi clocks

Keep your music perfectly in sync with some timely Midi help from Paul Overaa

Someone wrote to me the other day saying that they wanted to use their sequencer to record drum patterns stored in a drum machine. Apparently they were having trouble setting the record speed of their Amiga sequencer to the same speed as the drum unit. The result? The attempted recordings of a 24 bar drum part produced sequences which varied from between 23 and 25 bars in length.

This type of problem is common and occurs not just when recording from drum machines but when recording from any external Midi device. Similar sorts of timing problems can occur when you try and link two sequencers together or record complete arrangements from a workstation-type synth.

Fortunately the solution is easy, and it also eliminates altogether the need to adjust the sequencer speed to match that of the external Midi device. The trick is to set up the external device so that it generates Midi clocks and then arrange for the sequencer doing the recording to use those clock messages rather than following its own internal timing clock.

Almost all Amiga sequencers have menu options for using an external clock in this way. Some, such as Dr T's KCS, also provide controls which allow you to choose whether an explicit Midi Start message is needed to make the sequencer begin recording or whether it should start as soon as the first clock is received.

These latter features can be handy when you're dealing with an external Midi device that generates clock data continuously (ie even when a pattern or sequence is not playing). All drum machines incidentally do send explicit Midi start messages when a drum pattern begins.

So to record from a drum machine you'd connect it to the Amiga's Midi interface, load up your sequencer program and select the external clock option (this is sometimes called external sync.)

Set the sequencer to record, choose a drum pattern on the drum machine and hit the start button. You'll find that the sequencer will record the pattern exactly, without any bar length timing problems at all.

Now in case you're wondering how all this works beneath the surface here's a brief run-down on the techie stuff. Midi clocks are single byte Midi messages that have the value decimal 248 (that's F8 hex for any aliens reading).

When you set a sequencer to its external clock option the internal timing mechanism is disabled and attention is focused purely on the incoming Midi data.

The external device will be transmitting clock bytes at the rate of 24 per quarter note and these will be received along with all the other Midi data.

What happens of course is that whenever the sequencer reads one of these clocks it adjusts its bar position counter by 1/24th of a quarter note. By the time 24 have been collected the sequencer will know that one bar of data has been received.

When you record data in this way the absolute tempo of the external device doesn't really matter. If you double the playing speed you double the number of Midi clocks sent.

Halve it, and you halve the number of Midi clocks. Either way the sequencer will be able to recognise each bar of music as it arrives and if, say, you play exactly 24 bars of a drum pattern – you will end up recording exactly 24 bars regardless of tempo.

These types of external clock-based Midi links also come in useful on other occasions. You might, for example, have a collection of songs recorded with an old sequencer that didn't provide options for exporting sequences as Midi files.

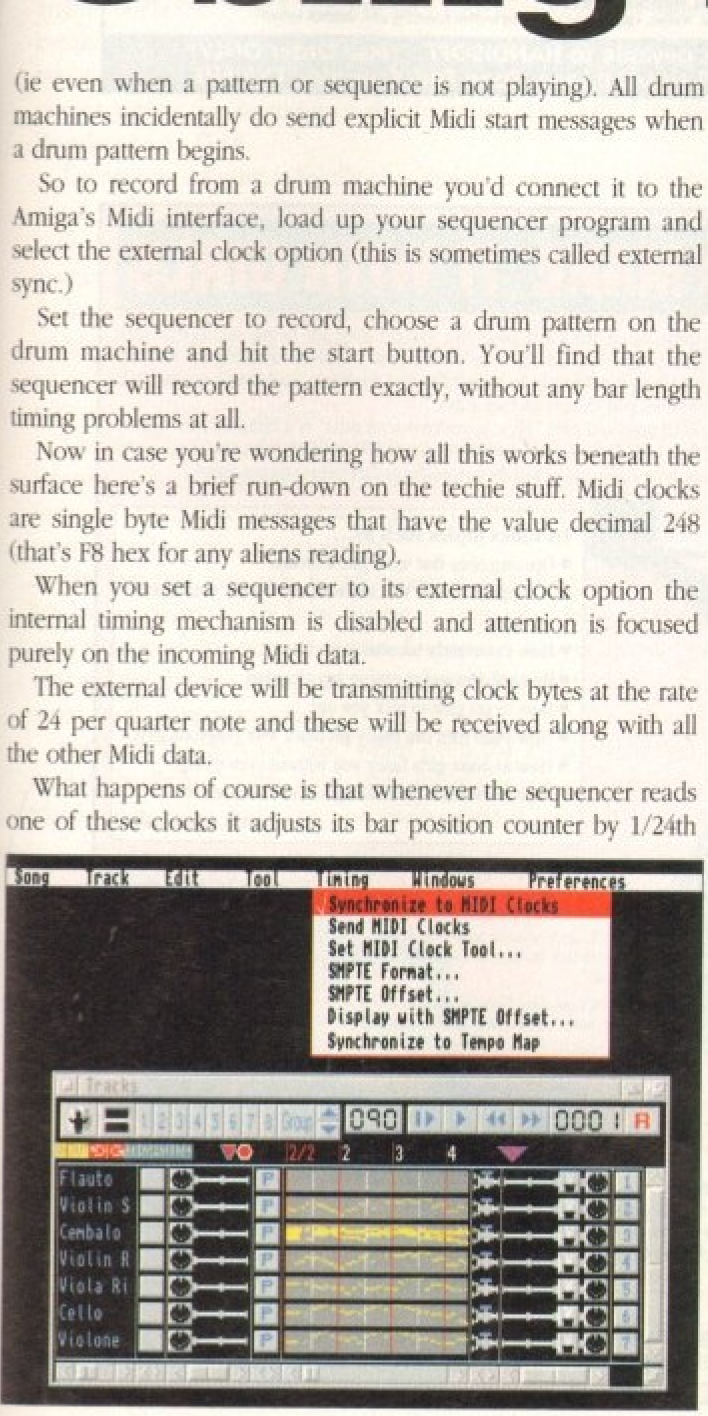
To move those songs across to a more modern sequencer you just need to borrow another Amiga and link the two machines together. It is probably safest for most people to use a Midi connecting lead and two Midi interfaces, but it can in fact be done by connecting the two machine's serial ports directly using an RS232 cable.

Whichever way you choose to connect up the hardware, here's what you have to do once you've linked the source and destination machines together and loaded the respective sequencer programs: Set the sequencer that is going to play the song sequences to its internal clock option, making sure that it is also set to generate timing clocks at the same time. Then, set the sequencer being used for recording to its external clock option and start it recording.

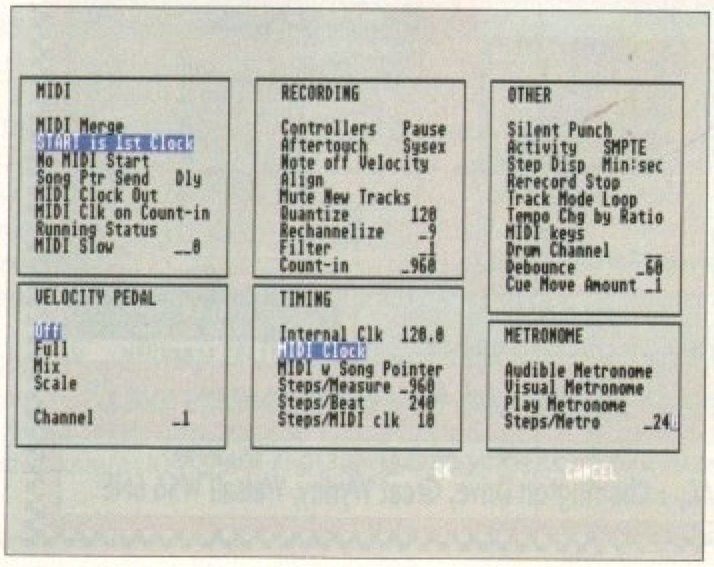
Nothing will actually happen until the source sequencer is started. This is because the recording sequencer will be waiting for those all-important Midi clocks and these will not appear until the sequencer being used to play the song is actually started.

When you do hit the source sequencer's start button however everything should fall into place. The destination (recording end) sequencer will record and store the original song material, bar for bar, and there won't be a bar timing glitch in sight!





Bars & Pipes, like most Amiga sequencers, provides a variety of timing options



Dr T's KCS sequencer has many options including for waiting for real Midi start messages or starting on the first received clock

Pretty bad privacy

Comms buff Phil South returns to the encryption program PGP, and its current legal problems



The recent past has thrown up some pretty weird subcultures, especially in the world of comms. You know, the kind of groups of people who specialise in one thing or another, and can't talk about anything else. A bit like the father-in-law who comes into your house, walks straight past you and feels the radiators.

One such group in comms is the encryption brigade. They called themselves the cypherpunks – basically cyberpunks who could encrypt their email so it could not be cracked.

You may remember I spoke a while back about a program which could be had in the PD which gave you military standard encryption for your email and files. It was called PGP and the point was that it was launched into the PD so that anyone could have it.

The problem was, and I believe I said as much at the time, that the government of the US is not keen on such encryption being widely available, especially as it has just spend gigabucks developing similar technology.

I inferred in the column that it would be a good idea to get yourself encryption friendly as soon as possible because it would only be a matter of time before the US government, the only world government paranoid enough, would want PGP outlawed. I also said this all might just be paranoid rubbish, and left it at that.

Fast forward to the present, 1994, ten years after Big Brother, and sure enough PGP, and its creator Phil Zimmermann, are on trial.

Zimmermann created PGP in 1991, with a view to distributing industrial-strength encryption to the masses, while personal encryption was still a legal pastime.

Because PGP was released on the Internet on all major platforms, it has very quickly become the cypherpunk's encryption engine of choice. Now it may just be a ruse to clobber this groundbreaking encryption for something, but apparently it's against the law to "export" encryption software without permission, which comes under the heading of the International Traffic in Arms Regulations, or ITAR.

Encryption software is legally classified as a weapon, and exporting it, even electronically it seems, is illegal – what American law calls a "felony" in fact. Other felony crimes include murder and arson.

And so in September of last year US Customs agents subpoenaed the authors of the program, requiring them by law to produce all the relevant materials for an "investigation of illegal exporting of encryption-related materials".

The reason was, of course, that in putting the material on the Internet, Zimmerman and his friends must have known that people from all around the globe could, and in fact would, take the program overseas without permission.

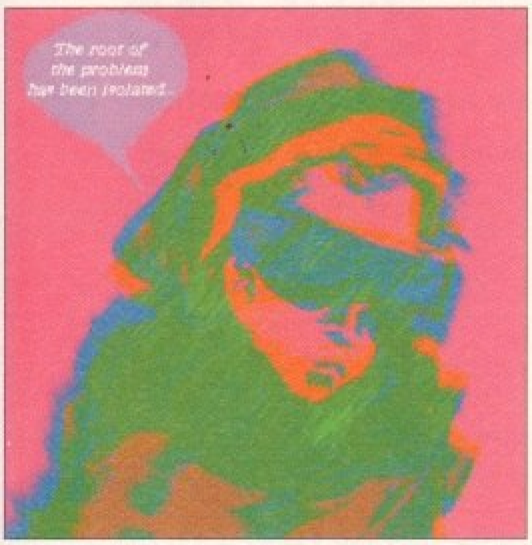
The fact that the code is still where it was put on the original Internet node in the US is by the by. A copy of it, in law the same as a photocopy or published item I suppose, has winged its way beyond the shores of the land of the free, home of the brave... (the word "not!" springs to mind).

Surely in this day and age, when even the Russians are selling military hardware to the West, such measures are outdated – a bit like keeping a law forbidding people to paint slogans on the Berlin wall. All the same, Zimmermann and his chums are in deep doos.

The US government has said that it will not make its Clipper chip the only legal form of encryption, but a cynic would say (and I do) if they hammer PGP enough they will be taking out one of the chip's biggest competitors.

Zimmermann may get off, if indeed he is to be charged, by saying he didn't intend for the program to be copied overseas, and he placed it on the Internet in the US.

Whatever happens either way, it may be the most interesting case of the year as far as the Internet is concerned. Does this mean that the government of the US will want to monitor what goes on through the 'Net? And what will our government want to do about it in light of our special relationship? Only time will tell. If I get wind of a result in this case I'll let you know.



Chinese whispers, picture-style, on the Internet

Internet A to Z

Here are some fun places to visit on the 'Net this month. The Sequoia 2000 project has set up shop at <toe.cs.berkeley.edu> in the pub/sequoia directory.

This is a project which wants to gather and use a lot of ecological and other data about the physical world we live in. A lot of this data is available for you to use (good luck) at the site.

Internet Relay Chat or IRC is a really fun place to be, if a little confusing. CIX has a feed, although I've rarely got it to work on NComm, for some ANSI-type reason.

You can also get to it by using TELNET to 140.117.11.33, and log in as IRC with a password of IRC. But be careful! IRC is about as addictive as Tetris.

OTIS has a little hidden away project which may take your fancy. The pictures (in the CROSSWIRE directory of the OTIS machine) were collaborations carried out by remote control across the 'Net.

The pictures were submitted by one user, then downloaded and modified by another user, then uploaded again, then downloaded and modified by yet another user, and so on.

The results were sometimes a little bit odd, some just plain bad, but most were at the very least quite interesting. Find OTIS on <sunsite.unc.edu> in the pub/multimedia/pictures/OTIS directory under CROSSWIRE.

Write stuff

Write to me Phil South, Comms Column, Amiga Computing, Europa House, Adlington Park, Macclesfield, SK10 4NP. Or how about dropping me some email on:

CIXsnouty@cix.compulink.co.uk
Direct connection
snouty@dircon.co.uk
Compuserve 100102,1500

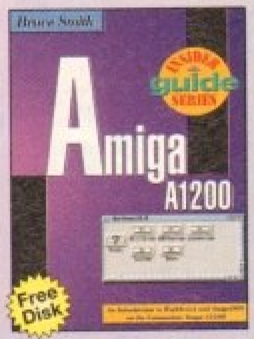
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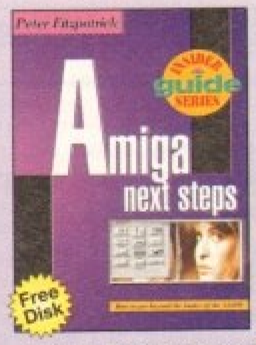
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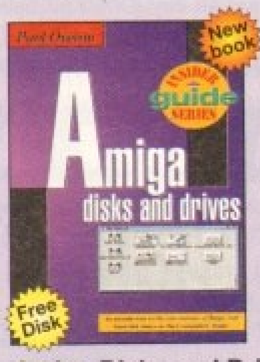
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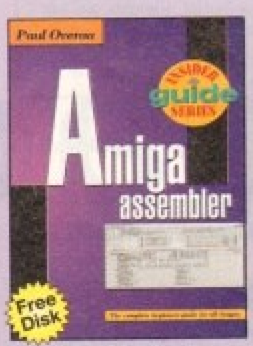
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Amiga A1200 Next Steps Insider Guide
P. Fitzpatrick, 256 pages, £14.95, ISBN: 1-873308-24-8



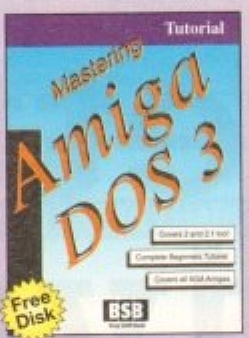
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Amiga Disks and Drives
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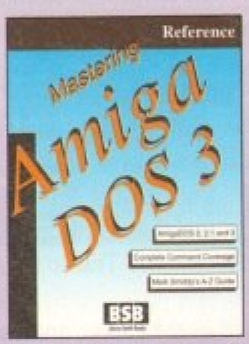
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Amiga Assembler Insider Guide
Paul Overaa, 256 pages, £14.95, ISBN: 1-873308-27-2



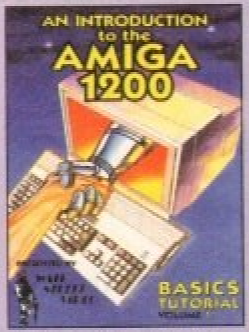
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Mastering AmigaDOS 3 – Tutorial
Smith & Smiddy, 384 pages, £21.95, ISBN: 1-873308-20-5



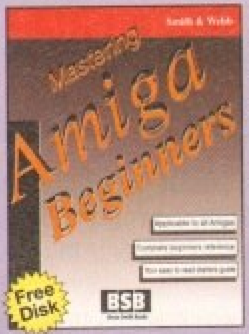
This is *the* full reference guide to the AmigaDOS command set with complete coverage of over 140 AmigaDOS 2, 2.1 and 3 commands. Arranged alphabetically, it includes many worked examples with full command synopsis and templates. Contains details on the Mountlist, AmigaDOS Error Codes, AmigaGuide, the IFF, Commodities, and much more.

Mastering AmigaDOS3 – Reference
Smith & Smiddy, 368 pages, £21.95, ISBN: 1-873308-08-6



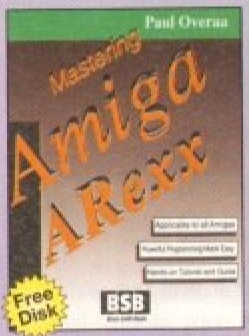
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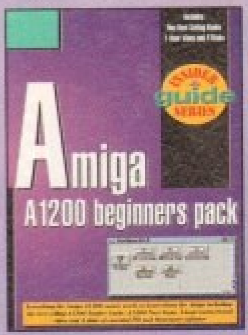
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Sheer sprite!

Phil South looks at the new SpriteX v3.0 from Shadow Software

After something of a long lay over, Aaron Fothergill has produced SpriteX v3. What happened to SpriteX v2? Well, it mutated into v2.5, and then it got so close to v3 it wasn't worth releasing it until then.

Some things have been added and other things have been made better. The software itself is pretty self explanatory, and comes in two forms on the disk. The first is the more powerful interpreted version for Classic Amos users only.

This version requires both Ctext 2.5 (or above) and v3 or above of the Amos Club/Shuffle Extension (both of which are supplied with Sprite X v3 in extension only form). This version is slightly slower, and takes longer to start up, but allows users to make their own modifications via the User menu. It also allows access to direct mode.

Also on the disk is the faster (but non-editable) compiled version of the program. This is for using the program without any modifications or for Amos Pro users who have no other options (as none of the extensions will be available for Pro).

Before using Sprite X v3, you have to run the Ctext_Shuffle_Install.Amos program supplied to install Shuffle v3.0 and Ctext v2.6 onto your Amos System.

Sprite X v3 has a very simple icon-based menu system, which is based around three icon bars and a simple set of controls. The screen itself is split up into the editing area (with the zoomed and normal views of the image, plus the palette selector) and the menus themselves.

Pressing the spacebar cycles the various screens to the front. The first press will bring the editing area to the front, the second will bring the screen being edited to front, and a third press will bring the menu bars back to the front.

All the screens can be moved up and down if you drag them by the small circular gadgets in the corners (bottom right for all but the Main menu bar).

The mouse can be used for all controls, and most controls have keyboard equivalents. When viewing the full screen, areas can be copied with the right mouse button and pasted with the left mouse button. Blocks grabbed in this way are the same as those grabbed with the CUT function in the tools menu.

Drawing in the zoomed window will directly draw to the selected area of the edited screen. This can be seen in the unzoomed window to the right. Dragging the Edit box around (the area marked within the unzoomed window) allows you to select the area you want to edit.

You can also drag the screen around within the unzoomed window, so that you can work on any part of the screen. This means that you can edit bobs or icons up to 320 x 256 pixels in size, or even touch up screens.

Sprite X v3 is written using Classic Amos (v1.36), using the Shuffle and Ctext extensions. It was written as a pure games writing editor, designed for use alongside your favourite art package.

To this end, it will automatically snooze (with Multi Wait statements) if you use Left Amiga A to flip to the Workbench (or DPaint running from Workbench). If you save your DPaint picture to the RAM: disk with a .IFF or .LBM suffix and return to Sprite X v3 (with Left Amiga-A again), you can press Left Amiga-R and Sprite X v3 will automatically scan the RAM: disk and load in your picture (subsequent Amiga-Rs will load in the next .IFF or .LBM file).

The Autosave files are simply an .IFF picture file and an Amos Multi bank, so a simple:

```
Load "ASbanks.abk"
```

will load them all in. Sprite X v3 can also be called from the Shell or CLI, with screens and banks as parameters, eg:

```
SpriteX3 myscreen.iff,mybank.abk
```

which would load up Myscreen.iff as the edit screen, and mybank.abk as bank 1. Multiple banks can also be loaded, eg:

```
SpriteX3 mybank1.abk,3#mybank2.abk,myscreen.iff
```

adding the 3# in front of the second bank instructs Sprite X v3 to load it into bank 3 (0-9), basically, up to ten banks can be loaded along with an IFF screen in this method.

The rules are very simple, if there is .IFF at the end of the filename it is loaded to the edit screen, and .ABK means it will be loaded to a bank.

If Sprite X detects a file called SX3_startscreen.iff in the directory it is run from, it will load it as the edit screen (if no other screen is selected as a CLI parameter).

A neat feature has been added (shades of Amos Pro's Interface) in that if a file called SX3_UserButtons.abk is found in Sprite X v3's directory then this is loaded as the button screen.

This means you can create your own buttons for the program, and is something which can either add or subtract from the program functionality depending on how good your buttons are!

The compiled version of Sprite X v3 was compiled with the Amos Compiler rather than the Pro Compiler as according to Aaron "the Pro Compiler doesn't tend to be able to cope with anything this size, has bugs, and can't handle Amos extensions." There you have it.



Future updates?

No there won't be an Amos Pro version of Sprite X v3. As soon as Nigel Critten's Amos AGA extension is finished, Aaron will be doing an AGA version of SX3. Other functions to be added will be:

.PCX/.BMP/Pict Load/Save
IFF Anim Brush Load/Save
New Animator and AnimX animation extension for Amos

SpriteX is the very best sprite creation utility around, and if you haven't got a copy you need your head looking at. It costs just £29.99 from your local dealer, or from the new Shadow Software distributor INDI Software, 92 High St, Johnstone, Scotland PA5 8SD.

Write stuff

If you have an Amos question, then please write to Phil South, Amos Column, Amiga Computing, Europa House, Adlington Park, Macclesfield, SK10 4NP.

Pictures in words

A picture can paint a thousands words, but it can be them too. Confused? Ben Pointer verbalises his way back to clarity

One of the most dramatic effects you can apply to display headings is to render the letters in the heading as pictures. But the technique needs to be used with caution; it is so very easy to go over the top.

One temptation is to render every letter in the heading as a different picture, and while there may be one or two legitimate uses for this, in general you end up with a heading that cannot be read because of a confusion of images.

A gentler effect would be to combine one word and one picture. Pick the right picture and the right word, and an otherwise weak, one-word heading can be transformed into something really dynamic.

The secret to this technique is the stencil. What we have to produce is the DTP equivalent of a piece of card with letters cut out of it. This is then placed over the picture, creating the illusion that the letters have been crafted from that picture.

But you cannot use just any old word in any old font and use it with any old picture. The type needs to be large, bold and very tightly set so that the holes inside and between the letters are as small as possible. The picture should normally have a strong pattern, so that common details can be seen in every letter.

And the details should be easily discerned – this heading is going to be read in one quick eyeful; the reader is not going to sit and study intricate details. To create the stencil you need to use a structured drawing package like ProDraw or Art Expression. No matter which of these packages you are using, the technique is essentially exactly the same.

The first job is to create a rectangular panel with no line weight and a solid white fill colour. This is the card out of which we are going to cut the letters.

Don't worry about size and stuff at the moment, let's just create a rough stencil so you can learn the technique. You can create a more accurate one later.

Now we need a word. Select the boldest font you own and type a short word in quite a large point size. Try to choose letters that are kind of rectangular in shape and do not have a lot of space in or around them – R E B A are better shapes than C O J L, for example.

Give the word a black fill colour and position it on top of the white panel. Work in outline (wireframe) mode if you are having trouble seeing the white panel. The next step is to merge the two objects – the word and the panel – so that they become one compound object.

ProDraw users can simply group the two objects using the marquee tool and select Make Compound Object from the Object menu.

Art Expression users must first select the word alone, then turn it into a graphic using Convert To Graphic from the Text menu.

Next you must group the panel and the all the letters of the word, then select Merge Paths from the Effects menu.

The result is a single object, a white panel with holes in it where the letters were – a stencil in other words.

The panel doesn't have to be white; the panel colour needs to be the same colour as the page colour, which is normally white, but it can be any colour you like of course.

ProDraw users now need to save this object as a clip. ProPage, PageSetter 2/3 and PageStream will import it. Art Expression users will need to Export in DR2D or Save in Art Expression format depending on which DTP program you are using. Note that Illustrator88 format cannot be used for compound objects.



If you are using PageStream, then Export in DR2D format, and this will import straight into PageStream, no problems.

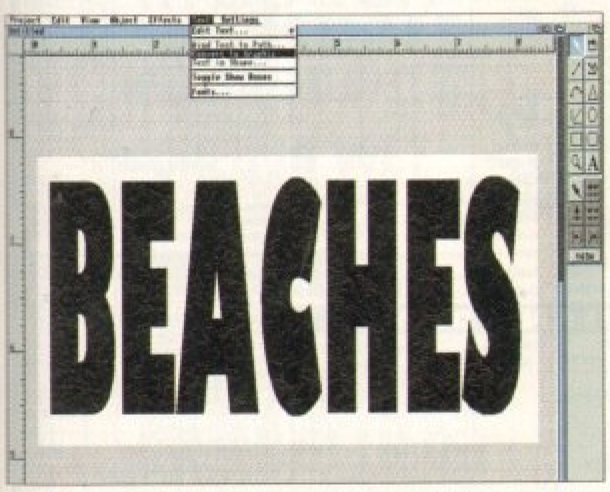
If you are using ProPage you should Save the object in Art Expression format, and to import it into a box in ProPage use the LeftAmiga-Shift-G keypress so that the requester that asks which format the graphic is in is put up. Select Art Expression format, and the object should import perfectly.

The only step left is to import and size the graphic, then place the stencil completely on top of the graphic.

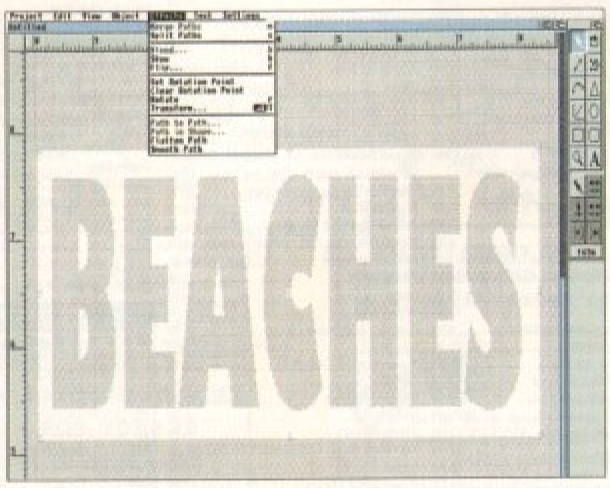
There are many, many uses to which this technique can be put. You can use it to give any picture any shape frame, from the much loved family portrait-style ellipse, to a grid or jigsaw puzzle effect, to, well, anything you like.

Just draw your shape or shapes on top of the white panel, group the lot and merge the group into a single compound object; the result will always be holes in the white panel.

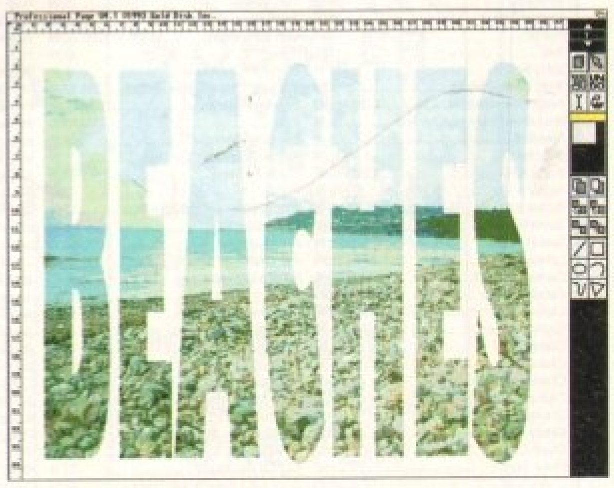
And remember that you can have anything you like visible through the holes, it doesn't have to be a picture. It could be words, or a pattern, or a gradient or rainbow fill – the stencil is one of the most useful and versatile tricks desktop publishers have up their sleeves. Just be careful not to overuse it in any one document, or else it will cease to be a special effect.



Art Expression users must convert the text to a graphic before a compound object can be created



After merging the paths of the white panel and the letters we are left with a white panel with holes in where the letters were



This is just one application for stencils – there are many, many more

AMIGA COMPUTING Snips

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AMIGA MARKET

Cramming with the critter

ADI makes his latest foray into the more grown-up world of GCSE study and revision with his Maths, English and French packs. Stevie Kennedy wonders if the National League tables will feel the effect

Europress Software's ADI range has, since its release, been seen as one of the best Amiga educational tools for parents and teachers with younger children.

Now, however, the extra-terrestrial is moving into uncharted waters with the release of ADI GCSE, three packs covering English, Maths, and French and primarily aimed at home study and revision.

As usual, the software is presented as an environment disk, holding the core of the ADI control software, and a data disk for each application area.

This means that floppy users should find disk access reasonably limited, but I would like to have seen a hard drive install option, particularly as the huge colour-coded copy protection sheets are fairly photocopier-resistant.

To begin with, ADI is rather patronising, especially given the fact that most 15/16-year-olds these days are rather more worldly wise than most of us would believe possible. When I typed in my name, as requested, the cheeky little critter quipped that it was unusual and asked if I was a girl.

ATTAINMENT

Once into the main revision exercises, though, ADI really starts to impress. The software is designed to cover attainment targets six to ten, and a full record of the user's progress is kept for later study. Using the record it is easy to see where weaknesses may lie and concentrate on them, making ADI a good tool for revision.

Tools available include a calculator, a personal diary in which students can keep notes ("Now I remember why I hate algebra" was my only entry), and the facility to send "letters" to other users of the same package.

As an incentive to learn, a variety of games are on offer, starting with a basic Battleships clone, which the student can access as his or her scores in the revision section increase.

This is a fair enough idea, but as the games compare badly with most PD offerings, I fail to see how a 15-year-old is expected to see them as a spur to learning.

In revision mode, once ADI has finished cracking the odd terrible "doctor, doctor" joke, the real business of passing GCSEs is helped along admirably by the variety and depth of subject coverage. I sampled all three packages, and in each there is plenty to keep a student going for many hours.

In particular, the French package is very impressive, and uses a variety of topics covering travel, eating, camping, looking for a job, and so on in the same way as the GCSE French course itself. As the program proceeds, it becomes progressively more testing, and my rusty French forced me to accept defeat on some of the past participle questions.



As jobs are so scarce over here, we could always try for one in French over there

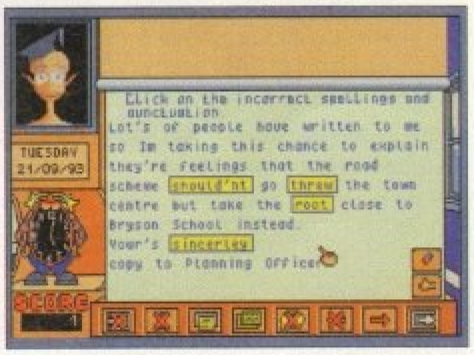
Identifying the correct words and phrases, with solutions and on-line help available if you run into trouble, can be less taxing, but in general this package should be a stiff test of just how much you were listening during class time.

The English disk is hardly less complete, and by using a variety of example including advertisements, letters, and narratives, it tests the student's knowledge of word origins, sentence structure, punctuation, and tone. Semi-colons and apostrophes, two of the most consistent traps for most people, are well covered, as are meaning and ambiguity.

At times, usually when guessing the missing word, the program can be a little hit and miss, but this is rare, and there are many adults who would benefit from a few hours at the keyboard with this disk.

Finally, possibly the most hated subject on the school curriculum, mathematics, is available for those with a either a masochistic streak or a few problems with numbers (no government minister should be without it).

Equations, sequences and patterns, formulae, and graphs are covered in depth, and only the better students will find the later sections easy.



Spelling is probably the easiest exercise in GCSE English

As with the French package, I was stumped closer to the end by some of the examples, and it was only with the aid of long dormant areas of the brain that I was able to master some of the trickier simultaneous equations.

Given ADI GCSE's depth and range, the ADI figure's constant interjections, a tendency towards user-friendliness, and the on-line help, it is difficult not to recommend the package to parents.

My only two criticisms would be that at £34.99 per package it is a rather expensive option, and that ADI could be a bit less patronising, particularly when the program first boots up.

Flashback

Other sound GCSE packages are difficult to find, but 10 out of 10 Software's range springs to mind. Less slick than ADI, and definitely suffering on the graphics front, these are nevertheless perfectly good study programs with a strong national curriculum bent, and cheaper to boot.

The various study guides available as paperback books also provide just as much in the way of thorough revision material, but ADI is much better at retaining the student's interest. If it can keep a reviewer long past school age going for a couple of hours without becoming tedious, it can't be bad.

Implementation: 8
Ease of use: 8
Value for money: 7
Overall: 8

Product: ADI GCSE
Supplier: Europress Software
Phone: 0625 859444
Price: £34.99 per subject

Leader of

It's right up there in terms of speed and efficiency. It's your passport to smooth, exciting gameplay. It's the Assembly language, and Mark Jackson reveals how it can be used to recreate a classic old game

Fed up with playing games? Want to do something a bit more creative with your computer than just killing aliens? Well, you could start programming it! But which language would you use to talk to your Amiga? After all, there are so many – Pascal, C, Basic... For me there is just one language worth using, and that's machine code.

If you've been put off in the past by how hard it all looks, don't worry – it isn't that difficult really! All you need to start coding is an assembler, to assemble your source code into executable code (hence the name).

If you are serious about learning machine code I'd strongly recommend you buy a decent assembler like Devpac 3. Although it's a little pricey at around £50, it's well worth it.

There are some assemblers to be found in PD libraries but to be honest they're not very good. I know you can't expect too much from something that's free, but the ones I've tried out didn't even work (or at least I couldn't get them to work, though I'm sure there must be some usable ones out there somewhere!).

BEGINNER

If you're a complete beginner, I think the best way for you to learn would be to pick it up as you go along. If you play around with the source code on this month's disk and follow these articles it should all become clear.

OK, so far so good! Now we're going to do a little project together, and have I got a good one for you or what? Do you remember Pacman? Well we're going to code our own, definitive version of it.

It is about the simplest game I could think of to do, but in doing it we should cover most aspects of writing a game, and coding in general, for once you know how to code you're not restricted to just writing games – you could write utilities, ray tracing programs, music programs – whatever you wanted.

Over the next six months we'll code all of the routines we'll need, but first of all I'll show you how to take control of the system, shut it down and set up our screen. Then, when the Esc key is pressed, the system will be restored. That's what the source on this month's CoverDisk does (core.s), and it can be used as the core of any program.

Follow the on-disk source code line by line and we'll examine what each of the commands does as we go along. Typing in your own listings is much easier once you've messed about with someone else's.

First of all the code calls the exec-library function forbid which stops the system from multitasking – we want all of the processor time for ourselves!

There are several libraries available to you (graphics, DOS, intuition, etc) but probably the most important one is the exec-library, which is resident in memory all of the time, while the others have to be opened before they can be used.

Next we'll need to allocate some memory for our screen. There's another function in the exec-library to do this for us – we just tell it how many bytes we want and what type of memory we require (chip/fast). We'll be using a five ibitplane screen to give us the full 32 colours, each bitplane being 40 bytes wide and 256 lines high, so we need 5 x 40 x 256 = 51,200 bytes of memory.

Next we need to save the address of the system copper list, and set up our own copper list. If you don't know, the copper is a co-processor which can wait for any line in the screen and move a value into a hardware register.

INDEPENDENT

That doesn't sound very useful, but it is. As it is a co-processor, it works independently of the 68000 main processor and as a result of this frees the 68000 up to do other things.

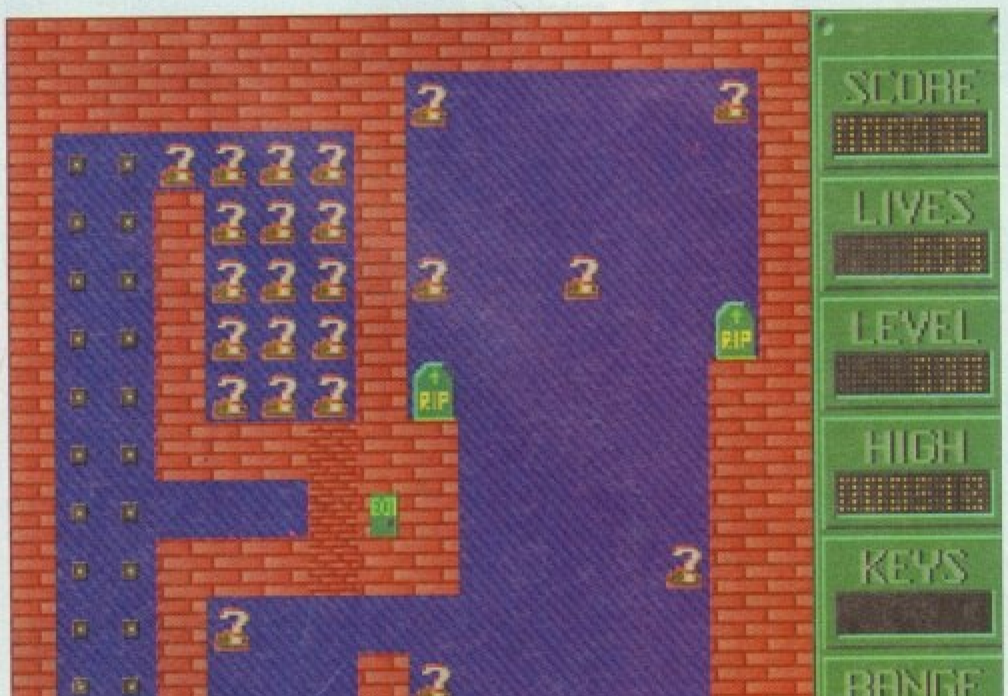
I say 68000 as I'm assuming you're using an A500 or A600, but if you're lucky enough to have an A1200 or above then your Amiga will be running a much faster 68020/30/40 processor.

Anyway, back to the subject – we use the copper to set up the screen, which involves setting all of the relevant registers defining the size of the screen, how many bitplanes it will have (0 to 5), whether it'll be lo-res or hi-res and so on, and of course setting the colours.

The copper can do a lot more than just this – it can set the blitter, or call an interrupt for instance, but we don't need it to do any of that for our little game.

All right, so now we've got the copper using our copper-list, and that sets up the screen.

With every frame (50th of a second) we want to call all the necessary routines to read the joystick and adjust Pacman's co-ordinates/direction accordingly; draw the Pacman; test if he's eaten any little dots up and thus increased the player's score; also test if there are any dots left (if not then that's the end of



You might not be coding games like this right away, but with assembler you have the potential to

the Pac

that level). Also, we must move the ghosts and test if a ghost has run into Pacman – if so, the player loses a life. That's the main routines, though there are more, like printing the score, and we've got to allow for Pacman to eat one of the power-pills, when he becomes able to eat the ghosts. It all sounds complicated, but if we take each routine in turn and break it down into what we have to do it becomes easier.

So we have a game loop that first of all waits for a scan-line near the bottom of the screen, then calls all of the routines in turn, and finally tests if the Esc key has been pressed.

If not, it branches back to the top of the game loop again, but if Esc has been pressed the program shuts down and returns control to CLI or Workbench or whatever the system was doing before the game was loaded.

It is quite an easy task to free the system; we call the opposite function to forbid permit which turns multitasking back on again; we shut any libraries we've opened; and if we've allocated some memory for screens (which we have in this case), we call the freemem function in the exec-library.

Then all we have to do is restore the old copper-list, the address of which we saved earlier, then an rts instruction, and that's it!

That just about brings us to the end for this month, but if you load up the source on this month's CoverDisk, assemble it and run it you should see a blank screen. Wow! Then if you press the Esc key it should return you to the assembler. OK, so it's not much to look at right now, but just wait until we get started on the rest of the routines.

COMMENTS

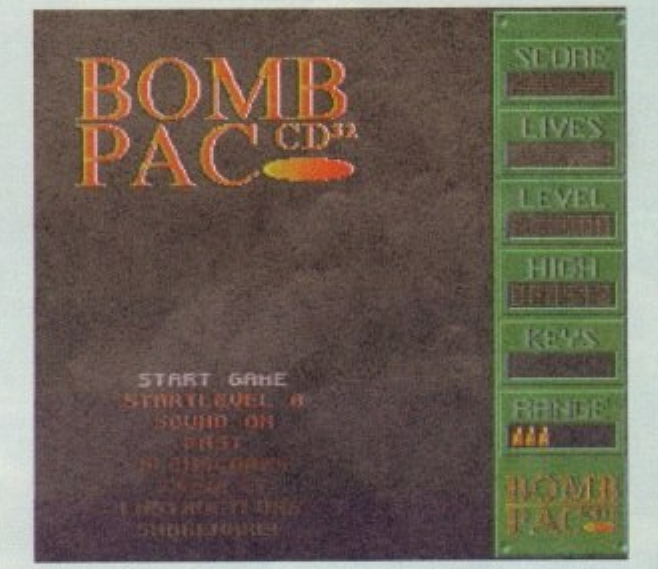
If you're a beginner then load up the source and look through it. I've commented just about every line so you should be able to follow what's going on. Even if you don't have an assembler you can load the source up into any word-processor, or just TYPE it out.

I'd advise you to play around with the source, change a few things, then assemble and run it – it might crash your Amiga, but just remember you can't do it any harm.

For example, if you alter the routine which clears the screen by making it fill the memory with a value other than zero, the screen won't be blank but instead will be filled with some data, so change the line moveq.b #0,d1 to moveq.b #5,d1 or moveq.b #%11110100,d1.

Then try changing the colours, colour 0 is the background colour so if you change it from $000 to $f80 the screen will become orange!

● *Next month I'll explain how to get our main character, the little yellow blob known as Pacman moving around the screen. Till then happy coding!*



This needn't be more than a few simple graphics and and an open screen

The basics of assembler

I'll just outline some of the basics though. The Amiga has eight data registers (d0 – d7) and eight address registers (a0 – a7, although a7 shouldn't be messed with as the system uses it as the stack pointer). As the names suggest, data registers hold an item of data, such as a number, and address registers hold an address in memory.

In 68000 machine code, you can work with bytes (eight bits of data), words (two bytes or 16 bits of data) or longwords (two words/four bytes = 32 bits of data).

A bit is either a 0 or a 1, and if you know anything about binary you'll know that therefore a byte can hold a number between 0 and 255 (2 to the power of 8 = 256), a word can hold a number between 0 and 65,535 and a longword can hold a number between 0 and 4.3 billion!

I bet you really wanted to know that, didn't you? You don't really need to know all of this, but it helps to understand what bytes, words and longwords are and why they are used. The default size is a word, though addresses have to be longwords.

After most instructions you put on a suffix to tell the assembler which size you are working on (.b = byte ,.w = word and.l = longword) eg move.b #5,d3 moves the number five into data register three as a byte.

However, move.b #500,d3 would give you an error when assembling it as the value 500 is too big to be stored as a byte, and you'd need to change that line to move.w #500,d3.

As I've said, addresses need to be worked on as longwords, so if you've got a table of values in your source after the label sine_data then to load this address into data register one you would use the line move.l #sine_data,d1. If you wanted to point address register 1 at sine_data though you would use the line lea sine_data,a1 (lea is short for Load Effective Address).

To identify a number in assembler it must have a # before it. Assemblers support four number systems – the default is decimal, e. move.w #32,number; alternatively you could use hexadecimal (base 16), which is used a lot machine code like in copper-list wait instructions. It's identified by a $ before it, eg move.w #$20,number.

The last two number systems are binary (base two), which is identified by a % sign before it, and octal (base eight), with octal numbers following a @ character.

I know all of this must sound a bit complicated now, and you're probably just about to turn the page over to read the reviews, but believe me – after a while it'll all become second nature.

There are quite a few instructions in machine code, but I'll just quickly explain some of the main ones – **MOVE** moves a number from one location to another as you've seen before.

You can perform all of the main mathematical operations in assembler with the instructions **ADD**, **SUB**, **DIVS** and **MULS**. If you've ever used Basic you may remember the instruction **GOSUB** for GO to **SUB**-routine; well you can do the same in machine code with the instruction **BSR** for Branch to Sub-Routine eg bsr print_letter.

At the end of the sub-routine you put an **RTS** command for **ReTurn** from Subroutine. Similarly you can branch to another part of code with the **BRA** instruction, eg bra start_game.

Now that is the basics, like I've said before I think the best way for you to learn is to go along with what I'm doing and pick it up as you go.

United Public D…

The innovators

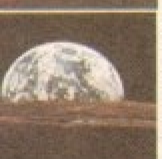
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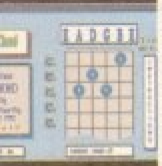
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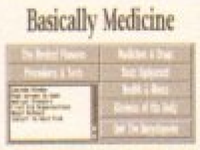
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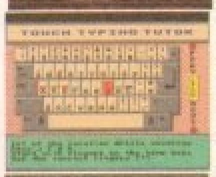
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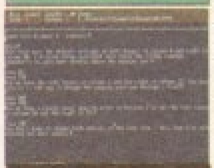
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BG014 EMERALD MINES 14
BG015 EMERALD MINES 15
BG016 NO ONE MINES 01
BG018 NO ONE MINES 03
BG020 NO ONE MINES 05
BG021 NO ONE MINES 06
BG022 NO ONE MINES 07
BG023 NO ONE MINES 08
BG024 NO ONE MINES 09
BG025 NO ONE MINES 10
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BG027 NO ONE MINES 12
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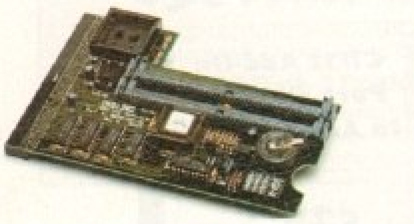
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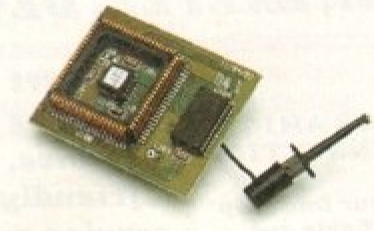
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The original PC1204 4MB 32-bit memory expansion is still available, and is exceptional value.

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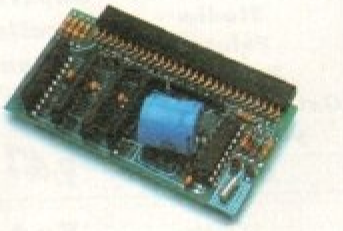
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The easy-to-use graphical user interface guarantees that even the inexperienced user is able to use Disk Expander immediately without any problems. DiskExpander does not only expand the capacity of your hard disk drive, even floppy disks now have a storage space of approximately 1.5 megabytes.

The concept of DiskExpander was designed under the aspect of maximum data security and high compression speed. The user decides to which extent the data is condensed by choosing high or medium compression libraries and thus has direct influence on the processing speed.

- Can add 50% to your hard drive capacity at a stroke
- Fast compression and decompression
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- Works with all drives, including SCSI, IDE, Floppies, and even the RAM disk
- Reliable in tests - no data corruption
- Once installed the program is transparent to the user
- Works on any Amiga and any KickStart

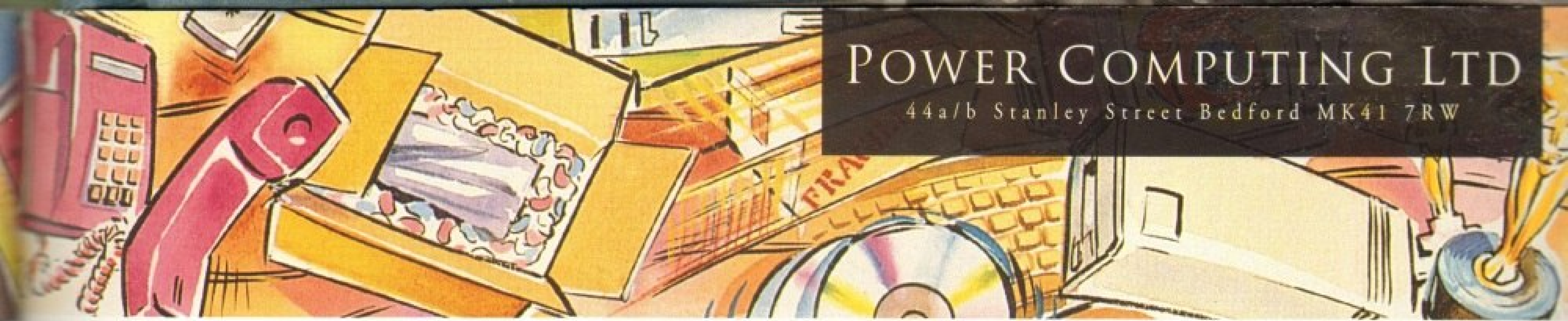
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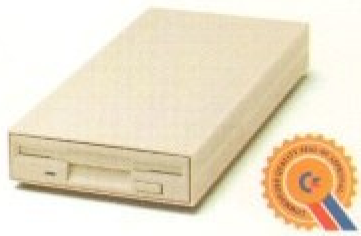
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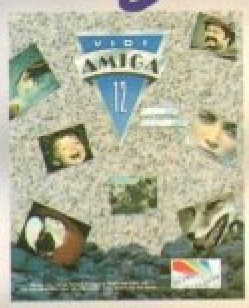
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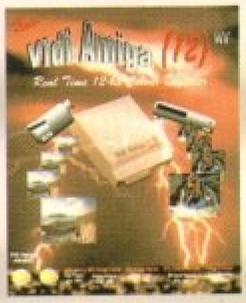
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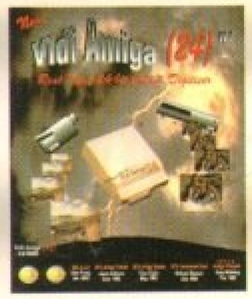
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